

MP attributes backends **basexx** **bit32** blobs  
boolean buffers builders caches **callback**  
callbacks catcodes characters chemistry  
commands containers context converters  
**coroutine** ctxrunner **debug** dir directives  
document documentdata drivers environment  
experiments figures **file** **fio** floats **font** fonts  
functions global graphics **gzip** images  
interactions interfaces **io** job **lang** languages  
layouts **lfs** libraries lmx logs lpdf **lpeg** **lua**  
luatex lxml **math** mathematics **md5** metapost **mime**  
moduledata modules mp **mplib** noads **node** nodes  
number objects optional **os** **package**  
pagebuilders parametersets **pdf** **pdfdecode** **pdfx**  
physics **pngdecode** publications regimes  
resolvers sandbox scripts set **sha2** **sio** **socket**  
sorters statistics **status** storage streams  
**string** structures **table** **tex** texconditionals  
**texconfig** texconstants texifs **texio**  
texisdefined texmodes texsystemmodes thirddata  
**token** tokens tracers trackers typesetters  
updaters url userdata **utf8** utilities  
visualizers **xcomplex** xdecimal **xmath** xml **xzip**  
**zip** **zlib**

# ConT<sub>E</sub>Xt LMTX

# global (alias: \_G)

|                            |          |                         |          |
|----------------------------|----------|-------------------------|----------|
| <b>CONTEXT</b>             | number   | <b>directives</b>       | table    |
| <b>FFISUPPORTED</b>        | boolean  | <b>document</b>         | table    |
| <b>INITEXMODE</b>          | boolean  | <b>documentdata</b>     | table    |
| <b>LUAMAJORVERSION</b>     | number   | <b>dofile</b>           | function |
| <b>LUAMINORVERSION</b>     | number   | <b>drivers</b>          | table    |
| <b>LUATEXENGINE</b>        | string   | <b>environment</b>      | table    |
| <b>LUATEXFORMATID</b>      | number   | <b>error</b>            | function |
| <b>LUATEXFUNCTIONALITY</b> | number   | <b>experiments</b>      | table    |
| <b>LUATEXVERSION</b>       | number   | <b>figures</b>          | table    |
| <b>LUAVERSION</b>          | number   | <b>file</b>             | table    |
| <b>MP</b>                  | function | <b>fio</b>              | table    |
| <b>arg</b>                 | table    | <b>floats</b>           | table    |
| <b>assert</b>              | function | <b>flushfontchar</b>    | function |
| <b>attributes</b>          | table    | <b>flushsimplerule</b>  | function |
| <b>backends</b>            | table    | <b>flushspecialrule</b> | function |
| <b>basexx</b>              | table    | <b>font</b>             | table    |
| <b>bit32</b>               | table    | <b>fonts</b>            | table    |
| <b>blobs</b>               | table    | <b>functions</b>        | table    |
| <b>blockrequire</b>        | function | <b>getmetatable</b>     | function |
| <b>boolean</b>             | table    | <b>getrpos</b>          | function |
| <b>buffers</b>             | table    | <b>getscriptstatus</b>  | function |
| <b>builders</b>            | table    | <b>global</b>           | table    |
| <b>caches</b>              | table    | <b>graphics</b>         | table    |
| <b>callback</b>            | table    | <b>grid_to_mp</b>       | function |
| <b>callbacks</b>           | table    | <b>gzip</b>             | table    |
| <b>catcodes</b>            | table    | <b>images</b>           | table    |
| <b>characters</b>          | table    | <b>inspect</b>          | function |
| <b>checkimage</b>          | function | <b>interactions</b>     | table    |
| <b>chemistry</b>           | table    | <b>interfaces</b>       | table    |
| <b>collectgarbage</b>      | function | <b>io</b>               | table    |
| <b>commands</b>            | table    | <b>ipairs</b>           | function |
| <b>containers</b>          | table    | <b>job</b>              | table    |
| <b>context</b>             | function | <b>lang</b>             | table    |
| <b>converters</b>          | table    | <b>languages</b>        | table    |
| <b>coroutine</b>           | table    | <b>layouts</b>          | table    |
| <b>createmask</b>          | function | <b>lfs</b>              | table    |
| <b>ctxrunner</b>           | table    | <b>libraries</b>        | table    |
| <b>data</b>                | table    | <b>lmx</b>              | table    |
| <b>debug</b>               | table    | <b>load</b>             | function |
| <b>dimen</b>               | function | <b>loadfile</b>         | function |
| <b>dir</b>                 | table    | <b>loadstring</b>       | function |

|                 |          |                 |            |
|-----------------|----------|-----------------|------------|
| logs            | table    | require         | function   |
| lpdf            | table    | required        | function   |
| lpeg            | table    | resolvers       | table      |
| lua             | table    | ruledspace      | function   |
| luatex          | table    | sandbox         | table      |
| lxml            | table    | scanarray       | function   |
| math            | table    | scanhash        | function   |
| mathematics     | table    | scripts         | table      |
| md5             | table    | select          | function   |
| metapost        | table    | set             | table      |
| mime            | table    | setinspector    | function   |
| moduledata      | table    | setmetatable    | function   |
| modules         | table    | sha2            | table      |
| mp              | function | shipbox_ref_h   | number     |
| mplib           | table    | shipbox_ref_v   | number     |
| next            | function | sio             | table      |
| noads           | table    | socket          | table      |
| node            | table    | sorters         | table      |
| nodes           | table    | statistics      | table      |
| number          | table    | status          | table      |
| objects         | table    | storage         | table      |
| optional        | table    | streams         | table      |
| optionalrequire | function | string          | table      |
| os              | table    | structures      | table      |
| package         | table    | table           | table      |
| pagebuilders    | table    | tex             | table      |
| pairs           | function | texconditionals | data table |
| parametersets   | table    | texconfig       | table      |
| pcall           | function | texconstants    | data table |
| pdf             | table    | texifs          | data table |
| pdfdecode       | table    | texio           | table      |
| pdfe            | table    | texisdefined    | data table |
| physics         | table    | texmodes        | data table |
| pngdecode       | table    | texsystemmodes  | data table |
| poporientation  | function | thirddata       | table      |
| print           | function | toboolean       | function   |
| publications    | table    | todecimal       | function   |
| pushorientation | function | token           | table      |
| rawequal        | function | tokens          | table      |
| rawget          | function | tonumber        | function   |
| rawlen          | function | tostring        | function   |
| rawset          | function | tracers         | table      |
| readarray       | function | trackers        | table      |
| regimes         | table    | type            | function   |

|                    |          |                 |          |
|--------------------|----------|-----------------|----------|
| <b>typesetters</b> | table    | <b>warn</b>     | function |
| <b>unpack</b>      | function | <b>xcomplex</b> | table    |
| <b>updaters</b>    | table    | <b>xdecimal</b> | table    |
| <b>url</b>         | table    | <b>xmath</b>    | table    |
| <b>userdata</b>    | table    | <b>xml</b>      | table    |
| <b>utf</b>         | table    | <b>xpcall</b>   | function |
| <b>utf8</b>        | table    | <b>xzip</b>     | table    |
| <b>utilities</b>   | table    | <b>zip</b>      | table    |
| <b>visualizers</b> | table    | <b>zlib</b>     | table    |

# attributes (context)

**applyoverloads** function

**colorintents** table

N attribute  
D data  
F enable  
F handler  
F register  
D registered

**colors** table

N attribute  
F cmyk  
F cmyktogray  
F cmyktorgb  
F colorcomponents  
D counts  
B couple  
F currentmodel  
F currentnamedmodel  
D data  
N default  
F defineintermediatecolor  
F definemultitonecolor  
F defineprocesscolor  
F defineprocesscolordirect  
F definesimplegray  
F definespotcolor  
F definetransparency  
F enable  
F filter  
N forced  
F forcedmodel  
F forcesupport  
F formatcolor  
F formatgray  
F getpagecolormodel  
F gray  
F graytohsv  
F handler  
T helpers  
F complement  
F inbetween

F justone  
F hsvtogray  
F hsvtorgb  
F hwbtorgb  
F iccprofile  
F isblack  
N main  
S model  
D models  
F mpcolor  
F mpnamedcolor  
F mpoptions  
F namedcolorattributes  
N none  
F popset  
F processcolorcomponents  
F pushset  
F register  
D registered  
F registerspotcolor  
F rgb  
F rgbtocmyk  
F rgbtogray  
F rgbtohsv  
N selector  
F setlist  
F setmodel  
F setpagecolormodel  
D sets  
F spec  
F spot  
F spotcolorname  
F spotcolorparent  
F spotcolorvalue  
B supported  
F toattributes  
F transparencycomponents  
B triggering  
F usecolors  
D valid  
F value

|                       |            |                          |        |
|-----------------------|------------|--------------------------|--------|
| D values              |            | F enable                 |        |
| B weightgray          |            | F forcesupport           |        |
| <b>define</b>         | function   | F handler                |        |
| <b>effects</b>        | table      | T names                  |        |
| N attribute           |            | N color                  |        |
| D data                |            | N colorburn              |        |
| F enable              |            | N colordodge             |        |
| F handler             |            | N darken                 |        |
| F register            |            | N difference             |        |
| D registered          |            | N exclusion              |        |
| D values              |            | N hardlight              |        |
| <b>handlers</b>       | table      | N hue                    |        |
| <b>list</b>           | data table | N lighten                |        |
| <b>markasoverload</b> | function   | N luminosity             |        |
| <b>names</b>          | data table | N multiply               |        |
| <b>negatives</b>      | table      | N none                   |        |
| N attribute           |            | N normal                 |        |
| D data                |            | N overlay                |        |
| F enable              |            | N saturation             |        |
| F handler             |            | N screen                 |        |
| F register            |            | N softlight              |        |
| D registered          |            | N none                   |        |
| F set                 |            | F register               |        |
| <b>numbers</b>        | data table | D registered             |        |
| <b>ofnode</b>         | function   | B supported              |        |
| <b>private</b>        | function   | F toattribute            |        |
| <b>public</b>         | function   | B triggering             |        |
| <b>restore</b>        | function   | F value                  |        |
| <b>save</b>           | function   | D values                 |        |
| <b>showcurrent</b>    | function   | <b>unsetvalue</b>        | number |
| <b>states</b>         | table      | <b>viewerlayers</b>      | table  |
| F disabletriggering   |            | N attribute              |        |
| F enabletriggering    |            | F cleanup                |        |
| F finalize            |            | D data                   |        |
| F initialize          |            | F define                 |        |
| F process             |            | F definedlayoutcomponent |        |
| F selective           |            | F enable                 |        |
| F stacked             |            | F forcesupport           |        |
| F stacker             |            | F handler                |        |
| <b>system</b>         | function   | B hasorder               |        |
| <b>tooverloads</b>    | function   | D listwise               |        |
| <b>transparencies</b> | table      | F register               |        |
| N attribute           |            | D registered             |        |
| D data                |            | F resolve_begin          |        |

F resolve\_end  
F resolve\_reset  
F resolve\_step  
D scopes  
F setfeatures

F start  
F stop  
B supported  
D values

# backends (context)

**closeout** function

**codeinjections** table

F boxresourcedimensions

F registerboxresource

F restoreboxresource

**current** string

**defaults** table

T codeinjections

F getpagedimensions

F getpageorigin

F lmtxmode

F setpagedimensions

F setpageorigin

T nodeinjections

T registrations

D tables

**getcallbackstate** function

**included** table

B context

B date

B id

B metadata

B pdf

**install** function

**latelua** function

**nodeinjections** table

**nothing** function

**openout** function

**pdf** table

T codeinjections

F addbookmarks

F analyzenormalsymbol

F analyzesymbol

F attachmentid

F bitmap

F clonefield

F copyimage

F definefield

F definefieldset

F defineviewerlayer

F embedfile

F embedimage

F enabletags

F exportformdata

F fieldsurrounding

F flushmergelayer

F getbookmarks

F getdefaultfieldvalue

F getfieldcategory

F getfieldset

F getformatoption

F getidentityvariable

F getinfo

F getpreviewfigure

F insertrenderingwindow

F maptag

F mergebookmarks

F mergecomments

F mergefields

F mergereferences

F mergeviewerlayers

F newimage

F prerollreference

F presetsymbol

F presetsymbollist

F processrendering

F registerdocumentcloseaction

F registerdocumentopenaction

F registeredsymbol

F registerpagecloseaction

F registerpageopenaction

F registersymbol

F scanningimage

F setattachmentsupport

F setfieldcalculationset

F setfigurealternative

F setfigurecolorspace

F setfiguremask

F setformat

F setformsmethod

F setpagetransition

F settaggingsupport



|                                  |                            |
|----------------------------------|----------------------------|
| F setupcanvas                    | F insertu3d                |
| F setupidentity                  | F knockout                 |
| F setxmpfile                     | F negative                 |
| F startlayer                     | F overprint                |
| F startunicodetoactualtext       | F positive                 |
| F startunicodetoactualtextdirect | F reference                |
| F stoplayer                      | F rgbcolor                 |
| F stopunicodetoactualtext        | F spotcolor                |
| F stopunicodetoactualtextdirect  | F startlayer               |
| F supportedformats               | F startstackedlayer        |
| F unicodetoactualtext            | F stoplayer                |
| F useviewerlayer                 | F stopstackedlayer         |
| F validfield                     | F transparency             |
| F validfieldcategory             | F typesetfield             |
| F validfieldset                  | T registrations            |
| F wrapimage                      | F cmykindexcolor           |
| S comment                        | F cmykspotcolor            |
| T nodeinjections                 | F getspotcolorreference    |
| F addtags                        | F grayindexcolor           |
| F annotation                     | F grayspotcolor            |
| F attachfile                     | F rgbindexcolor            |
| F changestackedlayer             | F rgbspotcolor             |
| F cmykcolor                      | F spotcolorname            |
| F comment                        | F transparency             |
| F destination                    | T tables                   |
| F effect                         | D vfspecials               |
| F graycolor                      | <b>registrations</b> table |
| F injectbitmap                   | <b>tables</b> table        |
| F insertmovie                    | <b>timestamp</b> function  |
| F insertsound                    | <b>writeout</b> function   |
| F insertswf                      |                            |

## basexx (extra lua)

**decode16** function

**decode64** function

**decode85** function

**decodeLZW** function

**decodeRL** function

**encode16** function

**encode64** function

**encode85** function

**encodeLZW** function

**encodeRL** function

## bit32 (basic lua)

**arshift** function

**band** function

**bnot** function

**bor** function

**btest** function

**bxor** function

**extract** function

**lrotate** function

**lshift** function

**replace** function

**rrotate** function

**rshift** function

## blobs (context)

|                   |          |
|-------------------|----------|
| <b>append</b>     | function |
| <b>dimensions</b> | function |
| <b>dispose</b>    | function |
| <b>new</b>        | function |
| <b>pack</b>       | function |
| <b>strdp</b>      | function |
| <b>strhd</b>      | function |

|                |          |
|----------------|----------|
| <b>strht</b>   | function |
| <b>strwd</b>   | function |
| <b>tohpack</b> | function |
| <b>tonodes</b> | function |
| <b>tovpack</b> | function |
| <b>write</b>   | function |

## boolean (context)

**tocontext** function

**tonumber** function

# buffers (context)

|                       |          |                   |          |
|-----------------------|----------|-------------------|----------|
| <b>append</b>         | function | F define          |          |
| <b>assign</b>         | function | F hassomecontent  |          |
| <b>collectcontent</b> | function | F next            |          |
| <b>erase</b>          | function | F place           |          |
| <b>exists</b>         | function | F reset           |          |
| <b>get</b>            | function | F save            |          |
| <b>getcontent</b>     | function | <b>prepend</b>    | function |
| <b>getlines</b>       | function | <b>raw</b>        | function |
| <b>gettexbuffer</b>   | function | <b>run</b>        | function |
| <b>loadcontent</b>    | function | <b>samplefile</b> | function |
| <b>parallel</b>       | table    | <b>undent</b>     | function |

# builders (context)

**checksidefloat** function

**kernel** table

- F hyphenating
- F hyphenation
- F kerning
- F ligaturing
- F mlist\_to\_hlist

**paragraphs** table

- T constructors
  - N attribute
  - F define
  - F disable
  - F enable
  - F handler
- T methods
  - F basic
  - F default
  - F hpack
  - F oneline
- D names
- D numbers
- F set
- F start
- F stop
- T expansion
  - F trace
- F kepttogether
- F registertogether
- T solutions
  - T splitters
    - F define
    - F optimize
  - T registered
  - F reset
  - F set
  - F split

F start

F stop

F tag

**profiling** table

- F add
- F distance
- F fixedprofile
- F get
- F list
- F pagehandler
- F profilebox
- F set

**vspacing** table

- F analyze
- D categories
- F collapsevbox
- T data
  - D map
  - D skip
  - D snapmethods
- F definesnapmethod
- B fixed
- F forcepageflush
- F forcestrutdepth
- F getnofpreviouslines
- F pagehandler
- F pageoverflow
- F popatsame
- F pushatsame
- F setmap
- F setskip
- F snapbox
- F synchronizepage
- F tocategories
- F tocategory
- F vboxhandler

## cache (context)

|                             |          |                             |          |
|-----------------------------|----------|-----------------------------|----------|
| <b>base</b>                 | string   | <b>loadcontent</b>          | function |
| <b>collapsecontent</b>      | function | <b>loaddata</b>             | function |
| <b>configfiles</b>          | function | <b>more</b>                 | string   |
| <b>contentstate</b>         | function | <b>savecontent</b>          | function |
| <b>defaults</b>             | table    | <b>savedata</b>             | function |
| <b>getfirstreadablefile</b> | function | <b>setfirstwritablefile</b> | function |
| <b>getreadablepaths</b>     | function | <b>setluanames</b>          | function |
| <b>getwritablepath</b>      | function | <b>treehash</b>             | function |
| <b>hashed</b>               | function | <b>usedpaths</b>            | function |
| <b>is_writable</b>          | function |                             |          |



## callback (basic tex)

**find**      function

**known**    function

**list**      function

**register** overloaded function

**usage**     function

# callbacks (context)

**freeze** function

**functions** table

F process\_rule

F start\_page\_number

F stop\_page\_number

**known** function

**list** data table

**pop** function

**push** function

**register** function

**report** function

**supported** table

B append\_to\_vlist\_filter

B build\_page\_insert

B buildpage\_filter

B contribute\_filter

B define\_font

B find\_format\_file

B find\_log\_file

B hpack\_filter

B hpack\_quality

B hyphenate

B insert\_local\_par

B intercept\_lua\_error

B intercept\_tex\_error

B kerning

B ligaturing

B linebreak\_filter

B make\_extensible

B mlist\_to\_hlist

B new\_graf

B open\_data\_file

B post\_linebreak\_filter

B pre\_dump

B pre\_linebreak\_filter

B pre\_output\_filter

B process\_jobname

B show\_error\_message

B show\_warning\_message

B show\_whatsit

B start\_file

B start\_run

B stop\_file

B stop\_run

B trace\_memory

B vpack\_filter

B vpack\_quality

B wrapup\_run

## catcodes (context)

**names** data table

**numbers** data table

**register** function

# characters (context)

|                      |            |                              |            |
|----------------------|------------|------------------------------|------------|
| <b>activeoffset</b>  | number     | T anudatta                   |            |
| <b>adobename</b>     | function   | T before_half                |            |
| <b>bidirectional</b> | data table | T before_main                |            |
| <b>blockrange</b>    | function   | T before_postscript          |            |
| <b>blocks</b>        | data table | T before_subscript           |            |
| <b>casemap</b>       | table      | T below_mark                 |            |
| <b>categories</b>    | data table | T consonant                  |            |
| <b>category</b>      | function   | T dependent_vowel            |            |
| <b>categorytags</b>  | data table | T halant                     |            |
| <b>classifiers</b>   | table      | T independent_vowel          |            |
| <b>collapsed</b>     | data table | T nukta                      |            |
| <b>contextname</b>   | function   | T post_mark                  |            |
| <b>csletters</b>     | data table | T pre_mark                   |            |
| <b>data</b>          | data table | T ra                         |            |
| <b>decomposed</b>    | data table | T stress_tone_mark           |            |
| <b>description</b>   | function   | T twopart_mark               |            |
| <b>descriptions</b>  | data table | T vowel_modifier             |            |
| <b>detailltags</b>   | data table | <b>initialize</b>            | function   |
| <b>directions</b>    | table      | <b>is_character</b>          | data table |
| <b>emoji</b>         | table      | <b>is_command</b>            | data table |
| F compact            |            | <b>is_letter</b>             | data table |
| F known              |            | <b>is_mark</b>               | data table |
| F resolve            |            | <b>is_punctuation</b>        | data table |
| <b>emojized</b>      | function   | <b>is_spacing</b>            | data table |
| <b>encodes</b>       | data table | <b>is_symbol</b>             | data table |
| <b>entities</b>      | data table | <b>lcchars</b>               | data table |
| <b>fallbacks</b>     | data table | <b>lccode</b>                | function   |
| <b>filters</b>       | data table | <b>lccodes</b>               | data table |
| <b>fractions</b>     | table      | <b>lettered</b>              | function   |
| <b>fromnumber</b>    | function   | <b>lhash</b>                 | data table |
| <b>fschars</b>       | data table | <b>linebreaks</b>            | data table |
| <b>fscodes</b>       | data table | <b>lower</b>                 | function   |
| <b>getrange</b>      | function   | <b>mathlists</b>             | data table |
| <b>graphemes</b>     | data table | <b>mirrors</b>               | table      |
| <b>hangul</b>        | data table | <b>otfscripts</b>            | data table |
| <b>indicgroups</b>   | table      | <b>private</b>               | table      |
| T above_mark         |            | <b>ranges</b>                | data table |
| T after_half         |            | <b>registerentities</b>      | function   |
| T after_main         |            | <b>remap_hangul_syllable</b> | function   |
| T after_postscript   |            | <b>setactivecatcodes</b>     | function   |
| T after_subscript    |            | <b>setlettercatcodes</b>     | function   |

|                     |            |                    |            |
|---------------------|------------|--------------------|------------|
| <b>shape</b>        | function   | D accentmapping    |            |
| <b>shaped</b>       | function   | D commandmapping   |            |
| <b>shash</b>        | data table | F defineaccents    |            |
| <b>shchars</b>      | data table | F safechar         |            |
| <b>shcodes</b>      | data table | F toutf            |            |
| <b>showstring</b>   | function   | F toutfpattern     |            |
| <b>specialchars</b> | data table | <b>textclasses</b> | table      |
| <b>specials</b>     | data table | <b>tonumber</b>    | function   |
| <b>splits</b>       | table      | <b>ucchars</b>     | data table |
| T char              |            | <b>uccode</b>      | function   |
| T compat            |            | <b>uccodes</b>     | data table |
| <b>subscripts</b>   | table      | <b>uhash</b>       | data table |
| <b>superscripts</b> | table      | <b>unicodechar</b> | function   |
| <b>synonyms</b>     | data table | <b>upper</b>       | function   |
| <b>tex</b>          | table      |                    |            |

## chemistry (context)

|                       |            |                       |          |
|-----------------------|------------|-----------------------|----------|
| <b>component</b>      | function   | <b>method</b>         | string   |
| <b>define</b>         | function   | <b>molecule</b>       | function |
| <b>definitions</b>    | data table | <b>moleculeparser</b> | userdata |
| <b>format</b>         | string     | <b>start</b>          | function |
| <b>inlinechemical</b> | function   | <b>stop</b>           | function |
| <b>instance</b>       | string     | <b>undefine</b>       | function |

## containers (context)

**cleanname** function  
**content** function  
**define** function  
**is\_usable** function

**is\_valid** function  
**read** function  
**usecache** boolean  
**write** function

## converters (context)

|                           |          |                            |            |
|---------------------------|----------|----------------------------|------------|
| <b>A</b>                  | function | <b>cn-c</b>                | function   |
| <b>A:es</b>               | function | <b>convert</b>             | function   |
| <b>A:ru</b>               | function | <b>decimals</b>            | function   |
| <b>A:sl</b>               | function | <b>define</b>              | function   |
| <b>AK</b>                 | function | <b>gregorian_to_hebrew</b> | function   |
| <b>Alphabetic</b>         | function | <b>gregorian_to_jalali</b> | function   |
| <b>Alphabetic:es</b>      | function | <b>hebrewnumerals</b>      | function   |
| <b>Alphabetic:ru</b>      | function | <b>helpers</b>             | table      |
| <b>Alphabetic:sl</b>      | function | <b>hexstringtonumber</b>   | function   |
| <b>Character</b>          | function | <b>i</b>                   | function   |
| <b>Characters</b>         | function | <b>isleapyear</b>          | function   |
| <b>I</b>                  | function | <b>jalali_to_gregorian</b> | function   |
| <b>KA</b>                 | function | <b>lchexnumber</b>         | function   |
| <b>KR</b>                 | function | <b>lchexnumbers</b>        | function   |
| <b>R</b>                  | function | <b>leapyear</b>            | function   |
| <b>RK</b>                 | function | <b>lower</b>               | function   |
| <b>Romannumerals</b>      | function | <b>max</b>                 | function   |
| <b>Russiannumerals</b>    | function | <b>maxchrs</b>             | function   |
| <b>Sloveniannumerals</b>  | function | <b>nicenumber</b>          | function   |
| <b>Spanishnumerals</b>    | function | <b>nofdays</b>             | function   |
| <b>Word</b>               | function | <b>number</b>              | function   |
| <b>Words</b>              | function | <b>numbers</b>             | function   |
| <b>a</b>                  | function | <b>octnumber</b>           | function   |
| <b>a:es</b>               | function | <b>octstringtonumber</b>   | function   |
| <b>a:ru</b>               | function | <b>ordinal</b>             | function   |
| <b>a:sl</b>               | function | <b>r</b>                   | function   |
| <b>abjadnodotnumerals</b> | function | <b>rawcharacter</b>        | function   |
| <b>abjadnumerals</b>      | function | <b>romannumerals</b>       | function   |
| <b>alphabetic</b>         | function | <b>russiannumerals</b>     | function   |
| <b>alphabetic:es</b>      | function | <b>sequences</b>           | data table |
| <b>alphabetic:ru</b>      | function | <b>settime</b>             | function   |
| <b>alphabetic:sl</b>      | function | <b>sloveniannumerals</b>   | function   |
| <b>character</b>          | function | <b>spaceddigits</b>        | function   |
| <b>characters</b>         | function | <b>spanishnumerals</b>     | function   |
| <b>chineseallnumerals</b> | function | <b>textime</b>             | function   |
| <b>chinesecapnumerals</b> | function | <b>toabjad</b>             | function   |
| <b>chinesenumerals</b>    | function | <b>tochinese</b>           | function   |
| <b>chr</b>                | function | <b>tohebrew</b>            | function   |
| <b>chrs</b>               | function | <b>toroman</b>             | function   |
| <b>cn</b>                 | function | <b>totime</b>              | function   |
| <b>cn-a</b>               | function | <b>uchexnumber</b>         | function   |



**uchexnumbers**

function

F translate

**upper**

function

**weekday**

function

**verbose**

table

**word**

function

D data

**words**

function

## coroutine (basic lua)

**close**           function  
**create**         function  
**isyieldable**   function  
**resume**         function

**running**       function  
**status**        function  
**wrap**          function  
**yield**         function

# ctxrunner (context)

|                     |          |                  |            |
|---------------------|----------|------------------|------------|
| <b>load</b>         | function | <b>prepfiles</b> | data table |
| <b>preparedfile</b> | function | <b>resolve</b>   | function   |

# data (context)

|               |          |                  |        |
|---------------|----------|------------------|--------|
| <b>action</b> | function | <b>prerolled</b> | string |
| <b>depth</b>  | number   | <b>width</b>     | number |
| <b>height</b> | number   |                  |        |

## debug (basic lua)

**getinfo** function

**sethook** function

**traceback** function

## dir (context)

|                       |          |
|-----------------------|----------|
| <b>collectpattern</b> | function |
| <b>current</b>        | function |
| <b>expandname</b>     | function |
| <b>found</b>          | function |
| <b>glob</b>           | function |
| <b>globdirs</b>       | function |
| <b>globfiles</b>      | function |

|                    |          |
|--------------------|----------|
| <b>globpattern</b> | function |
| <b>ls</b>          | function |
| <b>makedirs</b>    | function |
| <b>mkdirs</b>      | function |
| <b>pop</b>         | function |
| <b>push</b>        | function |

## directives (context)

|                |            |
|----------------|------------|
| <b>data</b>    | data table |
| <b>default</b> | function   |
| <b>disable</b> | function   |
| <b>done</b>    | table      |
| <b>enable</b>  | function   |
| <b>list</b>    | function   |

|                 |          |
|-----------------|----------|
| <b>name</b>     | string   |
| <b>register</b> | function |
| <b>report</b>   | function |
| <b>reset</b>    | function |
| <b>show</b>     | function |
| <b>value</b>    | function |

# document (context)

|                    |            |                           |            |
|--------------------|------------|---------------------------|------------|
| <b>arguments</b>   | data table |                           | D modes    |
| <b>files</b>       | table      |                           | D modules  |
| <b>functions</b>   | table      | <b>setargument</b>        | function   |
| <b>getargument</b> | function   | <b>setcommandline</b>     | function   |
| <b>getfilename</b> | function   | <b>setdefaultargument</b> | function   |
| <b>options</b>     | table      | <b>setenvironments</b>    | function   |
| T commandline      |            | <b>setfilename</b>        | function   |
| D environments     |            | <b>setfilenames</b>       | function   |
| D modes            |            | <b>setmodes</b>           | function   |
| D modules          |            | <b>setmodules</b>         | function   |
| T ctxfile          |            | <b>variables</b>          | data table |
| D environments     |            |                           |            |



documentdata (context)

**variable** function

# drivers (context)

|                   |          |                   |
|-------------------|----------|-------------------|
| <b>convert</b>    | function | T json            |
| <b>converters</b> | table    | T actions         |
| F engine          |          | F cleanup         |
| F lmtx            |          | F convert         |
| <b>enable</b>     | function | F finalize        |
| <b>gethpos</b>    | function | F initialize      |
| <b>getpos</b>     | function | F outputfilename  |
| <b>getrpos</b>    | function | F prepare         |
| <b>getvpos</b>    | function | F wrapup          |
| <b>helpers</b>    | table    | T flushers        |
| F tomatrix        |          | F character       |
| <b>install</b>    | function | F rule            |
| <b>instances</b>  | table    | F simplerule      |
| T default         |          | F specialrule     |
| T actions         |          | F updatefontstate |
| F convert         |          | S name            |
| F outputfilename  |          | T lua             |
| T flushers        |          | T actions         |
| S name            |          | F cleanup         |
| T empty           |          | F convert         |
| T actions         |          | F finalize        |
| F convert         |          | F initialize      |
| F prepare         |          | F outputfilename  |
| T flushers        |          | F prepare         |
| S name            |          | F wrapup          |
| T js              |          | T flushers        |
| T actions         |          | F character       |
| F cleanup         |          | F rule            |
| F convert         |          | F simplerule      |
| F finalize        |          | F specialrule     |
| F initialize      |          | F updatefontstate |
| F outputfilename  |          | S name            |
| F prepare         |          | T mps             |
| F wrapup          |          | T actions         |
| T flushers        |          | F cleanup         |
| F character       |          | F convert         |
| F rule            |          | F finalize        |
| F simplerule      |          | F initialize      |
| F specialrule     |          | F outputfilename  |
| F updatefontstate |          | F prepare         |
| S name            |          | F wrapup          |

- T flushers
  - F character
  - F rule
  - F simplerule
  - F specialrule
  - F updatefontstate
- S name
- T none
- T actions
- T flushers
- S name
- T pdf
  - T actions
    - F cleanup
    - F convert
    - F finalize
    - F initialize
    - F outputfilename
    - F prepare
    - F wrapup

- T flushers
  - F character
  - F fontchar
  - F group
  - F image
  - F literal
  - F poporientation
  - F pushorientation
  - F restore
  - F rule
  - F save
  - F setmatrix
  - F simplerule
  - F specialrule
  - F updatefontstate
- S name
- lmtxversion**      number
- outputfilename**    function
- report**              function

## environment (context)

|                            |            |                               |            |
|----------------------------|------------|-------------------------------|------------|
| <b>argument</b>            | function   | <b>luafile</b>                | function   |
| <b>arguments</b>           | data table | <b>luafilechunk</b>           | function   |
| <b>basicengines</b>        | data table | <b>luatexengine</b>           | string     |
| <b>currentrun</b>          | number     | <b>luatexfunctionality</b>    | number     |
| <b>definefilefallback</b>  | function   | <b>luatexversion</b>          | number     |
| <b>definefilesynonym</b>   | function   | <b>maxnofruns</b>             | number     |
| <b>engineflags</b>         | data table | <b>oldhome</b>                | string     |
| <b>filename</b>            | string     | <b>originalarguments</b>      | data table |
| <b>filenames</b>           | table      | <b>outputfilename</b>         | string     |
| <b>files</b>               | table      | <b>ownbin</b>                 | string     |
| <b>filesynonyms</b>        | data table | <b>ownmain</b>                | string     |
| <b>forcedruns</b>          | number     | <b>ownname</b>                | string     |
| <b>getargument</b>         | function   | <b>ownpath</b>                | string     |
| <b>homedir</b>             | string     | <b>prerollrun</b>             | boolean    |
| <b>initex</b>              | boolean    | <b>rawarguments</b>           | data table |
| <b>initexmode</b>          | boolean    | <b>reconstructcommandline</b> | function   |
| <b>initializearguments</b> | function   | <b>relativepath</b>           | function   |
| <b>initializefilenames</b> | function   | <b>setargument</b>            | function   |
| <b>inputfilebarename</b>   | string     | <b>splitarguments</b>         | function   |
| <b>inputfilename</b>       | string     | <b>suffix</b>                 | string     |
| <b>inputfilesuffix</b>     | string     | <b>texfile</b>                | function   |
| <b>jobfilefullname</b>     | string     | <b>texmfos</b>                | string     |
| <b>jobfilename</b>         | string     | <b>texos</b>                  | string     |
| <b>jobfilesuffix</b>       | string     | <b>texroot</b>                | string     |
| <b>jobname</b>             | string     | <b>truefilename</b>           | function   |
| <b>kindofrun</b>           | number     | <b>uselua module</b>          | function   |
| <b>lmtxmode</b>            | number     | <b>usemodules</b>             | function   |
| <b>loadexamodes</b>        | function   | <b>validengines</b>           | data table |
| <b>loadluafile</b>         | function   | <b>version</b>                | string     |

## experiments (context)

|                |            |
|----------------|------------|
| <b>data</b>    | data table |
| <b>default</b> | function   |
| <b>disable</b> | function   |
| <b>enable</b>  | function   |
| <b>list</b>    | function   |
| <b>name</b>    | string     |

|                 |          |
|-----------------|----------|
| <b>register</b> | function |
| <b>report</b>   | function |
| <b>reset</b>    | function |
| <b>show</b>     | function |
| <b>value</b>    | function |

# figures (context)

|                        |            |                         |            |
|------------------------|------------|-------------------------|------------|
| <b>applyratio</b>      | function   | B bleed                 |            |
| <b>badname</b>         | function   | B crop                  |            |
| <b>bases</b>           | data table | B media                 |            |
| <b>bitmapimage</b>     | function   | B none                  |            |
| <b>boxnumber</b>       | number     | B trim                  |            |
| <b>cachepaths</b>      | data table | F totable               |            |
| <b>check</b>           | function   | T types                 |            |
| <b>checkers</b>        | data table | N jbig2                 |            |
| <b>converters</b>      | data table | N jp2                   |            |
| <b>current</b>         | function   | N jpg                   |            |
| <b>defaultdepth</b>    | number     | N memstream             |            |
| <b>defaultheight</b>   | number     | N none                  |            |
| <b>defaultsearch</b>   | boolean    | N pdf                   |            |
| <b>defaultwidth</b>    | number     | N png                   |            |
| <b>done</b>            | function   | N stream                |            |
| <b>dummy</b>           | function   | F wrap                  |            |
| <b>exists</b>          | data table | <b>include</b>          | function   |
| <b>exists</b>          | function   | <b>includers</b>        | data table |
| <b>formats</b>         | data table | <b>initialize</b>       | function   |
| <b>found</b>           | data table | <b>loaded</b>           | data table |
| <b>get</b>             | function   | <b>localpaths</b>       | data table |
| <b>getinfo</b>         | function   | <b>magics</b>           | data table |
| <b>getpdfinfo</b>      | function   | <b>mergegoodies</b>     | function   |
| <b>getrealpage</b>     | function   | <b>nofmissing</b>       | number     |
| <b>guess</b>           | function   | <b>nofprocessed</b>     | number     |
| <b>guessfromstring</b> | function   | <b>order</b>            | data table |
| <b>hash</b>            | function   | <b>paths</b>            | data table |
| <b>identifiers</b>     | data table | <b>patterns</b>         | data table |
| <b>identify</b>        | function   | <b>pop</b>              | function   |
| <b>images</b>          | table      | <b>preferquality</b>    | boolean    |
| F check                |            | <b>programs</b>         | data table |
| F checksize            |            | <b>push</b>             | function   |
| F copy                 |            | <b>registerpattern</b>  | function   |
| F create               |            | <b>registerresource</b> | function   |
| F embed                |            | <b>registersuffix</b>   | function   |
| T keys                 |            | <b>remappers</b>        | data table |
| F print                |            | <b>resources</b>        | data table |
| F scan                 |            | <b>scale</b>            | function   |
| F serialize            |            | <b>set</b>              | function   |
| T sizes                |            | <b>setlookups</b>       | function   |
| B art                  |            | <b>setmemstream</b>     | function   |

**setorder**  
**setpaths**

function  
function

**suffixes**  
**used**

data table  
data table

## file (basic lua)

|                          |          |                      |          |
|--------------------------|----------|----------------------|----------|
| <b>addsuffix</b>         | function | <b>needsupdating</b> | function |
| <b>basename</b>          | function | <b>pathpart</b>      | function |
| <b>checksum</b>          | function | <b>readdata</b>      | function |
| <b>collapsepath</b>      | function | <b>removesuffix</b>  | function |
| <b>copy</b>              | function | <b>replacesuffix</b> | function |
| <b>dirname</b>           | function | <b>reslash</b>       | function |
| <b>expandname</b>        | function | <b>robustname</b>    | function |
| <b>extname</b>           | function | <b>savechecksum</b>  | function |
| <b>is_qualified_path</b> | function | <b>savedata</b>      | function |
| <b>is_readable</b>       | function | <b>size</b>          | function |
| <b>is_rootbased_path</b> | function | <b>splitbase</b>     | function |
| <b>is_writable</b>       | function | <b>splitname</b>     | function |
| <b>isreadable</b>        | function | <b>splitpath</b>     | function |
| <b>iswritable</b>        | function | <b>strip</b>         | function |
| <b>join</b>              | function | <b>suffix</b>        | function |
| <b>joinpath</b>          | function | <b>suffixes</b>      | function |
| <b>loadchecksum</b>      | function | <b>suffixesonly</b>  | function |
| <b>nameonly</b>          | function | <b>suffixonly</b>    | function |
| <b>nametotable</b>       | function | <b>syncmtimes</b>    | function |
| <b>needs Updating</b>    | function | <b>withinbase</b>    | function |



## fio (extra lua)

|                          |          |
|--------------------------|----------|
| <b>getposition</b>       | function |
| <b>read2dot14</b>        | function |
| <b>readbytes</b>         | function |
| <b>readbytetable</b>     | function |
| <b>readcardinal1</b>     | function |
| <b>readcardinal1le</b>   | function |
| <b>readcardinal2</b>     | function |
| <b>readcardinal2le</b>   | function |
| <b>readcardinal3</b>     | function |
| <b>readcardinal3le</b>   | function |
| <b>readcardinal4</b>     | function |
| <b>readcardinal4le</b>   | function |
| <b>readcardinaltable</b> | function |
| <b>readfixed2</b>        | function |
| <b>readfixed4</b>        | function |
| <b>readinteger1</b>      | function |
| <b>readinteger1le</b>    | function |
| <b>readinteger2</b>      | function |

|                         |          |
|-------------------------|----------|
| <b>readinteger2le</b>   | function |
| <b>readinteger3</b>     | function |
| <b>readinteger3le</b>   | function |
| <b>readinteger4</b>     | function |
| <b>readinteger4le</b>   | function |
| <b>readintegertable</b> | function |
| <b>readline</b>         | function |
| <b>setposition</b>      | function |
| <b>skipposition</b>     | function |
| <b>writecardinal1</b>   | function |
| <b>writecardinal1le</b> | function |
| <b>writecardinal2</b>   | function |
| <b>writecardinal2le</b> | function |
| <b>writecardinal3</b>   | function |
| <b>writecardinal3le</b> | function |
| <b>writecardinal4</b>   | function |
| <b>writecardinal4le</b> | function |

# floats (context)

|                         |          |                   |          |
|-------------------------|----------|-------------------|----------|
| <b>analysemethod</b>    | function | <b>nofstacked</b> | function |
| <b>checkedpagefloat</b> | function | <b>pop</b>        | function |
| <b>collect</b>          | function | <b>push</b>       | function |
| <b>consult</b>          | function | <b>resave</b>     | function |
| <b>flush</b>            | function | <b>save</b>       | function |
| <b>getvariable</b>      | function | <b>stacked</b>    | function |
| <b>hasstacked</b>       | function |                   |          |

## font (basic tex)

|                      |          |
|----------------------|----------|
| <b>addcharacters</b> | function |
| <b>current</b>       | function |
| <b>define</b>        | function |
| <b>each</b>          | function |
| <b>getfont</b>       | function |
| <b>getfontdimen</b>  | function |

|                     |          |
|---------------------|----------|
| <b>id</b>           | function |
| <b>max</b>          | function |
| <b>nextid</b>       | function |
| <b>setfont</b>      | function |
| <b>setfontdimen</b> | function |

# fonts (context)

## **analyzers**      table

- D features
- D initializers
- D methods
- F setstate
- D states
- B useunicodemarks

## **checkers**      table

- F getmissing
- F missing
- F placeholder

## **cid**      table

- F getmap
- F loadfile

## **collections**      table

- F checkenabled
- F clonevector
- F define
- T definitions
- F found
- F prepare
- F process
- F registermain
- F report
- F reset
- T vectors

## **constructors**      table

- F addcharacters
- F addcoreunicodes
- B addtounicode
- F aftercopyingcharacters
- F applymanipulators
- F assignmathparameters
- B autocleanup
- F beforecopyingcharacters
- D cache
- B cacheintex
- F calculatyscale
- F checkedfeatures
- F checkedfilename
- F cleanupable

- F collectprocessors
- F currentfonthasfeature
- D designsizes
- D dontembed
- F enhanceparameters
- T enhancers
  - T afm
    - F apply
    - F patch
  - T patches
    - F register
    - F report
  - F register
  - F report
- T otf
  - F addfeature
  - F apply
  - F enhance
  - F patch
  - T patches
    - F register
    - F report
  - F register
  - F report
- T tfm
  - F apply
  - F patch
- T patches
  - F register
  - F report
- F register
- F report

- N factor
- T features
  - D afm
  - D otf
  - D tfm
- F finalize
- B fixprotrusion
- F getfeatureaction
- F getmathparameter

|                            |   |
|----------------------------|---|
| F getprivate               | F featuresinitializer                               |
| T handlers                 | F featuresprocessor                                 |
| T afm                      | F getactualtext                                     |
| B autoprefixed             | F getalternate                                      |
| D cache                    | F getgsub   |
| D features                 | F getkern   |
| F getkern                  | F getmultiple                                       |
| T helpdata                 | F getstreamhash                                     |
| D bothkerned               | F getsubstitution                                   |
| D leftkerned               | T handlers  |
| D ligatures                | F devanagari_remove_joiners                         |
| D rightkerned              | F devanagari_reorder_matras                         |
| D texligatures             | F devanagari_reorder_pre_base_reordering_consonants |
| F load                     | F devanagari_reorder_reph                           |
| T readers                  | F gpos_context                                      |
| F getinfo                  | F gpos_contextchain                                 |
| F loadfont                 | F gpos_cursive                                      |
| F loadshapes               | F gpos_mark2base                                    |
| F setfeatures              | F gpos_mark2ligature                                |
| B syncspace                | F gpos_mark2mark                                    |
| N version                  | F gpos_pair   |
| T otf                      | F gpos_single                                       |
| F addfeature               | F gsub_alternate                                    |
| F basemodeinitializer      | F gsub_context                                      |
| D cache                    | F gsub_contextchain                                 |
| F collectlookups           | F gsub_ligature                                     |
| T coverup                  | F gsub_multiple                                     |
| T actions                  | F gsub_reversecontextchain                          |
| F alternate                | F gsub_single                                       |
| F chainposition            | F trigger_space_kerns                               |
| F chainsubstitution        | T helpers   |
| F kern                     | F blockligatures                                    |
| F ligature                 | F pardirstate                                       |
| F multiple                 | F txtfirststate                                     |
| F pair                     | F load  |
| F single                   | F loadoutlinedata                                   |
| F substitution             | F loadstreamdata                                    |
| F register                 | F modeinitializer                                   |
| S stepkey                  | D mpscache  |
| F dataset                  | D pdfcache  |
| F datasetpositionprocessor | F plugininitializer                                 |
| S defaultbasealternate     | F pluginprocessor                                   |
| S defaultnodealternate     | T plugins   |
| D features                 | D pngcache  |

|                   |                               |
|-------------------|-------------------------------|
| B pngenabled      | F reversechainedcontextsingle |
| T readers         | F single                      |
| F addunicodetable | F gvar                        |
| F avar            | F head                        |
| F cbdt            | T helpers                     |
| F cblc            | F axistofactors               |
| F cff             | F cleanname                   |
| F cff2            | F getaxisscale                |
| F cffcheck        | F getfactors                  |
| T cffencoder      | F getscales                   |
| F checkhash       | F gotodatatable               |
| F cmap            | F normalizedaxis              |
| F colr            | T normalizedaxisishash        |
| F compact         | F readvariationdata           |
| F cpal            | F reportskippedtable          |
| F ebdt            | F setvariabledata             |
| F eblc            | F hhea                        |
| F ebsc            | F hmtx                        |
| F expand          | F hvar                        |
| F extend          | F kern                        |
| F fvar            | F loadfont                    |
| F gdef            | F loadshapes                  |
| F getcomponents   | F loca                        |
| F getinfo         | F math                        |
| F glyf            | F maxp                        |
| F gpos            | F mvar                        |
| T gposhandlers    | F name                        |
| F chainedcontext  | F os/2                        |
| F context         | F pack                        |
| F cursive         | F parsecharstrings            |
| F extension       | F post                        |
| F marktobase      | F registerextender            |
| F marktoligature  | F rehash                      |
| F marktomark      | F sbix                        |
| F pair            | F stat                        |
| F single          | T streamreader                |
| F gsub            | F close                       |
| T gsubhandlers    | F getposition                 |
| F alternate       | F getsizes                    |
| F chainedcontext  | F look                        |
| F context         | F open                        |
| F extension       | F read2dot14                  |
| F ligature        | F readbyte                    |
| F multiple        | F readbytes                   |

|                     |                     |
|---------------------|---------------------|
| F readbytetable     | F writeinteger2     |
| F readcardinal      | F writeinteger2le   |
| F readcardinal1     | F writeinteger3     |
| F readcardinal1le   | F writeinteger3le   |
| F readcardinal2     | F writeinteger4     |
| F readcardinal2le   | F writeinteger4le   |
| F readcardinal3     | F writestring       |
| F readcardinal3le   | F stripredundant    |
| F readcardinal4     | F svg               |
| F readcardinal4le   | N tableversion      |
| F readcardinaltable | F unifymissing      |
| F readchar          | F unpack            |
| F readfixed2        | F vhea              |
| F readfixed4        | F vmtx              |
| F readinteger       | F vorg              |
| F readinteger1      | F vvar              |
| F readinteger1le    | F woff2otf          |
| F readinteger2      | F registerpalette   |
| F readinteger2le    | F registerplugin    |
| F readinteger3      | F reorderlookups    |
| F readinteger3le    | F scriptandlanguage |
| F readinteger4      | F setdynamics       |
| F readinteger4le    | F setfeatures       |
| F readintegertable  | T statistics        |
| F readsignedbyte    | D usedfeatures      |
| F readstring        | D svgcache          |
| F readtag           | B svgenabled        |
| F setposition       | T tables            |
| F size              | D baselines         |
| F skip              | D features          |
| F skiplong          | D featuretypes      |
| F skipposition      | D languages         |
| F skipshort         | D scripts           |
| F writebyte         | N version           |
| F writecardinal1    | T pfb               |
| F writecardinal1le  | F loadvector        |
| F writecardinal2    | T tfm               |
| F writecardinal2le  | D cache             |
| F writecardinal3    | D features          |
| F writecardinal3le  | N maxnestingdepth   |
| F writecardinal4    | N maxnestingsize    |
| F writecardinal4le  | T readers           |
| F writeinteger1     | F loadpk            |
| F writeinteger1le   | F loadtfm           |

|                      |                          |
|----------------------|--------------------------|
| F loadtfmvf          | S scriptpercentage       |
| F loadvf             | S scriptscriptpercentage |
| F pktopdf            | S size                   |
| F showpk             | S slantfactor            |
| F reencode           | S slantperpoint          |
| F setfeatures        | T spacing                |
| N version            | S extra                  |
| T vf                 | S shrink                 |
| T combinations       | S stretch                |
| F combine            | S width                  |
| T combiner           | S units                  |
| D commands           | S vfactor                |
| D helpers            | S width                  |
| D math               | S xheight                |
| D predefined         | T properties             |
| N version            | S autoitalicamount       |
| D whatever           | S cidinfo                |
| F hashfeatures       | T effect                 |
| F hashinstance       | S ddelta                 |
| T hashmethods        | S effect                 |
| F normal             | S factor                 |
| F virtual            | S hdelta                 |
| F initializefeatures | S hfactor                |
| T keys               | S vfactor                |
| T characters         | S wdelta                 |
| T descriptions       | S width                  |
| T parameters         | S embedding              |
| S ascender           | S encodingbytes          |
| S descender          | S filename               |
| S designsize         | S finalized              |
| T expansion          | S fontname               |
| S auto               | S format                 |
| S shrink             | S fullname               |
| S step               | S hasitalics             |
| S stretch            | S hasmath                |
| S extendfactor       | S mathitalics            |
| S factor             | S mode                   |
| S hfactor            | S name                   |
| S mathsize           | S nostackmath            |
| S mode               | S psname                 |
| T protrusion         | S textitalics            |
| S auto               | S virtualized            |
| S quad               | D loadedfonts            |
| S scaledpoints       | S namemode               |



N noffontsloaded  
 N nofsharedfonts  
 N nofsharedhashes  
 N nofsharedvectors  
 N privateoffset  
 D privateslots  
 F readanddefine  
 F registerfeature  
 F resetfeature  
 B resolvevirtualtoo  
 F scale  
 F scaled  
 F setfactor  
 F setfeature  
 F setmathparameter  
 F setname  
 B sharefonts  
 F trytosharefont  
 N version

**current** function

**currentid** function

**definers** table

F addlookup  
 F analyze  
 F applypostprocessors  
 F checkedmode  
 F checkedscript  
 S defaultlookup  
 F define  
 F getspecification  
 F internal  
 F loadfont  
 F makespecification  
 T methods  
   F install  
   D variants  
 F read  
 F register  
 F registered  
 F registersplit  
 F resetnullfont  
 F resolve  
 T resolvers  
   F file

F name  
 F spec  
**definetypeface** function  
**dropins** table  
 F clone  
 F nextid  
 F provide  
 F registerglyph  
 F registerglyphs  
 F swap

**encodings** table

T agl  
 D ctxcodes  
 D extras  
 D names  
 D synonyms  
 D unicodes  
 D cache  
 F is\_known  
 D known  
 F load  
 F make\_unicode\_vector  
 D math  
 N version

**enhanceid** function

**expansions** data table

**formats** data table

**getalternate** function

**getindices** function

**getkern** function

**getmultiple** function

**getsubstitution** function

**getters** table

T alternate  
   F opentype  
 T kern  
   F opentype  
   F type1  
   F type3  
 T multiple  
   F opentype  
 T substitution  
   F opentype

**goodies** table

- D colorschemes
- T data
  - T dejavu-math
    - S author
    - S comment
    - S copyright
  - B initialized
  - T mathematics
    - T alternates
      - T dotless
        - S comment
        - S feature
      - N value
    - T kerns
      - S name
      - S version
- D designsizes
- D filenames
- F getcompositions
- T list
- F load
- F prepare\_features
- F register
- F registerpostprocessor
- F report
- T suffixes

**handlers**                      table

**hashes**                        table

- D characters
- D classes
- D csnames
- D descriptions
- D dynamics
- D emwidths
- D exheights
- D extensibles
- D features
- D identifiers
- D italics
- D lastmathids
- D marks
- D mathparameters
- D modes
- D originals

- D parameters
- T processes
- D properties
- D quads
- D resources
- T setdynamics
- T shapes
- D spaces
- D spacings
- T streams
- D unicodes
- D variants
- D xheights

**helpers**                      table

- F addextraprivate
- F addprivate
- F appendcommands
- F appendcommandtable
- F checkflags
- F checkmerge
- F checksteps
- F collectanchors
- D commands
- F descriptiontoslot
- F dimenfactor
- F expandglyph
- T extraprivates
- F fontpatternhassize
- F getcoloredglyphs
- F getdigitwidth
- F getinstancespec
- F getparameters
- F getprivatecharornode
- F getprivatenode
- F getprivates
- F getprivateslot
- F hasprivate
- F indextoslot
- F name
- F nametoslot
- F newprivateslot
- F prependcommands
- F prependcommandtable
- F privateslot

|                       |                         |  |                    |                        |  |
|-----------------------|-------------------------|--|--------------------|------------------------|--|
| F                     | setdigitwidth           |  | B                  | keepnames              |  |
| F                     | splitfontpattern        |  | N                  | mathbase               |  |
| F                     | tochar                  |  | N                  | mathextrabase          |  |
| <b>infofont</b>       | function                |  | N                  | textbase               |  |
| <b>iterators</b>      | table                   |  | N                  | textextrabase          |  |
| F                     | characters              |  | <b>protrusions</b> | data table             |  |
| F                     | descriptions            |  | <b>readers</b>     | table                  |  |
| F                     | glyphs                  |  | F                  | afm                    |  |
| <b>loggers</b>        | table                   |  | F                  | check_lua              |  |
| F                     | add_placeholders        |  | F                  | check_tfm              |  |
| D                     | category_to_placeholder |  | F                  | lua                    |  |
| F                     | format                  |  | F                  | ofm                    |  |
| F                     | onetimemessage          |  | F                  | opentype               |  |
| F                     | register                |  | F                  | otf                    |  |
| F                     | reportdefinedfonts      |  | F                  | pfb                    |  |
| F                     | reportusedfeatures      |  | D                  | sequence               |  |
| <b>mappings</b>       | table                   |  | F                  | tfm                    |  |
| F                     | addtounicode            |  | F                  | ttc                    |  |
| F                     | fromunicode16           |  | F                  | ttf                    |  |
| F                     | loadfile                |  | F                  | woff                   |  |
| F                     | loadline                |  | <b>reserveid</b>   | function               |  |
| F                     | makenameparser          |  | <b>select</b>      | table                  |  |
| D                     | overloads               |  | D                  | alternatives           |  |
| F                     | reset                   |  | F                  | bodyfont               |  |
| F                     | tounicode               |  | D                  | data                   |  |
| F                     | tounicode16             |  | F                  | default                |  |
| F                     | tounicode16sequence     |  | D                  | defaults               |  |
| <b>metapost</b>       | table                   |  | F                  | definefallbackfamily   |  |
| F                     | boundingbox             |  | F                  | definefontfamily       |  |
| F                     | boxtomp                 |  | F                  | definefontfamilypreset |  |
| F                     | draw                    |  | D                  | extras                 |  |
| F                     | fill                    |  | F                  | fallback               |  |
| F                     | maxbounds               |  | D                  | fallbacks              |  |
| F                     | output                  |  | F                  | features               |  |
| F                     | paths                   |  | F                  | filefallback           |  |
| F                     | widthline               |  | F                  | fontdata               |  |
| F                     | zeroline                |  | F                  | fontfallback           |  |
| <b>mp</b>             | table                   |  | F                  | fontsynonym            |  |
| D                     | cache                   |  | F                  | goodies                |  |
| B                     | inline                  |  | F                  | mathfallback           |  |
| N                     | version                 |  | D                  | methods                |  |
| <b>names</b>          | data table              |  | D                  | presets                |  |
| <b>nulldata</b>       | data table              |  | F                  | registerfallback       |  |
| <b>privateoffsets</b> | table                   |  | F                  | registerfiles          |  |

F registerfontalternative  
F registerfontfamily  
F textfallback  
F typeface  
F typescript  
F userdata

**specifiers**            table

D contextmerged  
F contextnumber  
D contextnumbers  
D contextsetups  
F contexttostring  
F definecontext  
F mergecontext  
F presetcontext  
F registercontext  
F showcontext  
F splitcontext  
D synonyms

D variants

**symbols**            table

T emoji  
F checked  
F resolved  
F uselibrary

**tables**            table

D data  
F savefont  
F saveoriginal

**tracers**            table

**treatments**        table

F applyfixes  
D data  
S filename  
F ignoredfile  
F report  
F trace

**typefaces**        table

# functions (context)

**dummy** function

# graphics (context)

## backgrounds table

- F fetchmultipar
- F pair
- F path
- F point

## bitmaps table

- F flush
- F new

F placeholder

F tocontext

## identifiers table

- F bitmap
- F jp2
- F jpg
- F png

## identify function

## gzip (extra lua)

**compress**    function  
**compressed** function  
**decompress** function

**load**        function  
**save**        function  
**suffix**      function

# images (context)

**check** function  
**checksize** function  
**copy** function  
**create** function  
**embed** function  
**keys** table  
**print** function  
**scan** function  
**serialize** function  
**sizes** table

- B art
- B bleed
- B crop
- B media

- B none
- B trim

**totable** function  
**types** table

- N jbig2
- N jp2
- N jpg
- N memstream
- N none
- N pdf
- N png
- N stream

**wrap** function



# interactions (context)

## **attachments** data table

### **fields** table

F clone  
F define  
F defineset  
F insert

### **general** table

F getidentity  
F setupidentity

### **help** table

F collect  
F reference  
F register

### **javascripts** table

F addtopreamble  
F code  
D codes  
F flushpreambles

D functions

D preambles

F setpreamble

F storecode

F storepreamble

F usepreamblenow

F usescripts

## **linkedList**s data table

### **pages** table

F setpagetransition  
F setupcanvas

### **references** table

F setcloseddocument  
F setclosepage  
F setopendocument  
F setopenpage

## **renderings** data table

## **soundclips** data table

# interfaces (context)

|                             |            |                          |            |
|-----------------------------|------------|--------------------------|------------|
| <b>addvalidkeys</b>         | function   | <b>message</b>           | function   |
| <b>arrays</b>               | table      | <b>namespaces</b>        | table      |
| <b>cachedsetups</b>         | data table | F define                 |            |
| <b>cachesetup</b>           | function   | F list                   |            |
| <b>cardinals</b>            | table      | <b>numbers</b>           | table      |
| <b>checkedspecification</b> | function   | <b>registernamespace</b> | function   |
| <b>complete</b>             | data table | <b>registerscanner</b>   | function   |
| <b>constants</b>            | data table | <b>scanners</b>          | data table |
| <b>corenamespaces</b>       | data table | <b>setconstant</b>       | function   |
| <b>currentinterface</b>     | string     | <b>setcount</b>          | function   |
| <b>currentresponse</b>      | string     | <b>setdimen</b>          | function   |
| <b>definecommand</b>        | function   | <b>setelement</b>        | function   |
| <b>defined</b>              | function   | <b>setformat</b>         | function   |
| <b>doifelsemessage</b>      | function   | <b>setmacro</b>          | function   |
| <b>elements</b>             | data table | <b>setmessage</b>        | function   |
| <b>floats</b>               | table      | <b>setmessages</b>       | function   |
| <b>formats</b>              | data table | <b>settranslation</b>    | function   |
| <b>getcheckedparameters</b> | function   | <b>setupstrings</b>      | data table |
| <b>getmessage</b>           | function   | <b>setvalidkeys</b>      | function   |
| <b>getnamespace</b>         | function   | <b>setvariable</b>       | function   |
| <b>getsetupstring</b>       | function   | <b>showmessage</b>       | function   |
| <b>hashedsetups</b>         | data table | <b>storedscanners</b>    | data table |
| <b>implement</b>            | function   | <b>syntax</b>            | data table |
| <b>integers</b>             | table      | <b>tolist</b>            | function   |
| <b>interfacedcommand</b>    | function   | <b>translations</b>      | data table |
| <b>interfaces</b>           | table      | <b>usednamespaces</b>    | data table |
| <b>invalidkey</b>           | function   | <b>variables</b>         | data table |
| <b>knownscanner</b>         | function   | <b>writestatus</b>       | function   |

## io (basic lua)

|                      |                     |                      |                     |
|----------------------|---------------------|----------------------|---------------------|
| <b>ask</b>           | function            | <b>output</b>        | overloaded function |
| <b>bytes</b>         | function            | <b>pathseparator</b> | string              |
| <b>characters</b>    | function            | <b>popen</b>         | overloaded function |
| <b>close</b>         | function            | <b>read</b>          | function            |
| <b>copydata</b>      | function            | <b>readall</b>       | function            |
| <b>exists</b>        | function            | <b>readnumber</b>    | function            |
| <b>fileseparator</b> | string              | <b>readstring</b>    | function            |
| <b>flush</b>         | function            | <b>savedata</b>      | function            |
| <b>input</b>         | overloaded function | <b>size</b>          | function            |
| <b>lines</b>         | overloaded function | <b>stderr</b>        | userdata            |
| <b>loadchunk</b>     | function            | <b>stdin</b>         | userdata            |
| <b>loaddata</b>      | function            | <b>stdout</b>        | userdata            |
| <b>loadlines</b>     | function            | <b>tmpfile</b>       | function            |
| <b>newreader</b>     | function            | <b>type</b>          | function            |
| <b>noflines</b>      | function            | <b>write</b>         | function            |
| <b>open</b>          | overloaded function |                      |                     |

# job (context)

|                          |          |                    |       |
|--------------------------|----------|--------------------|-------|
| <b>comment</b>           | function | D tobesaved        |       |
| <b>datasets</b>          | table    | <b>parwrappers</b> | table |
| D collected              |          | D collected        |       |
| F extend                 |          | D tobesaved        |       |
| F getdata                |          | <b>passes</b>      | table |
| F setdata                |          | F check            |       |
| D tobesaved              |          | D collected        |       |
| <b>disablesave</b>       | function | F count            |       |
| <b>embedded</b>          | table    | F define           |       |
| D collected              |          | F find             |       |
| D tobesaved              |          | F first            |       |
| <b>fileobjreferences</b> | table    | F get              |       |
| D collected              |          | F getcollected     |       |
| D tobesaved              |          | F getdata          |       |
| <b>files</b>             | table    | F getfield         |       |
| D collected              |          | F gettobesaved     |       |
| F context                |          | F inlist           |       |
| B forcerun               |          | F last             |       |
| F run                    |          | F list             |       |
| D tobesaved              |          | F save             |       |
| <b>getrandomseed</b>     | function | F savetagged       |       |
| <b>initialize</b>        | function | D tobesaved        |       |
| <b>load</b>              | function | <b>positions</b>   | table |
| <b>loadother</b>         | function | F b_column         |       |
| <b>objects</b>           | table    | F b_region         |       |
| D collected              |          | F c                |       |
| F get                    |          | D collected        |       |
| F number                 |          | F column           |       |
| F page                   |          | F columnofpos      |       |
| F save                   |          | F copy             |       |
| F set                    |          | F depth            |       |
| D tobesaved              |          | F e_column         |       |
| <b>pack</b>              | boolean  | F e_region         |       |
| <b>packversion</b>       | number   | F enhance          |       |
| <b>pagestates</b>        | table    | F extra            |       |
| D collected              |          | F get              |       |
| F countervalue           |          | F getfree          |       |
| F extend                 |          | F gethpos          |       |
| F realpage               |          | F getpos           |       |
| F realpageorder          |          | F getreserved      |       |
| F setstate               |          | F getrpos          |       |

F gettobesaved  
 F getvpos  
 F hangafter  
 F hangindent  
 F height  
 F hsize  
 F leftskip  
 F lowerleft  
 F lowerright  
 F markregionbox  
 F n  
 F onsamepage  
 F overlapping  
 F p  
 F page  
 T pagedata  
 F paragraph  
 F parindent  
 F position  
 F r  
 F region  
 F registerhandlers  
 F replace  
 F rightskip  
 F set  
 F setall  
 F setregionbox  
 F setspec  
 F settobesaved

D tobesaved  
 F upperleft  
 F upperright  
 F used  
 F whd  
 F width  
 F x  
 F xy  
 F y

**prepare**                   function  
**register**                   function  
**save**                       function  
**structure**                 table

D collected  
 T components  
 T tobesaved  
 T branches  
 S name  
 S type

**variables**               table

D checksums  
 D collected  
 F getchecksum  
 F makechecksum  
 F restore  
 F save  
 F setchecksum  
 D tobesaved

**version**                 number

## lang (basic tex)

|                          |          |
|--------------------------|----------|
| <b>clean</b>             | function |
| <b>clear_hyphenation</b> | function |
| <b>clear_patterns</b>    | function |
| <b>exceptions</b>        | function |
| <b>gethjcode</b>         | function |
| <b>has_language</b>      | function |
| <b>hyphenate</b>         | function |
| <b>hyphenation</b>       | function |
| <b>hyphenationmin</b>    | function |

|                         |          |
|-------------------------|----------|
| <b>id</b>               | function |
| <b>new</b>              | function |
| <b>patterns</b>         | function |
| <b>postexhyphenchar</b> | function |
| <b>posthyphenchar</b>   | function |
| <b>preexhyphenchar</b>  | function |
| <b>prehyphenchar</b>    | function |
| <b>sethjcode</b>        | function |

# languages (context)

|                               |            |                                 |            |
|-------------------------------|------------|---------------------------------|------------|
| <b>associate</b>              | function   | <b>F registerpattern</b>        |            |
| <b>associated</b>             | data table | <b>F setfeatures</b>            |            |
| <b>association</b>            | function   | <b>installed</b>                | function   |
| <b>counters</b>               | data table | <b>labels</b>                   | table      |
| <b>current</b>                | function   | <b>F define</b>                 |            |
| <b>data</b>                   | data table | <b>F split</b>                  |            |
| <b>decimals</b>               | data table | <b>loadable</b>                 | function   |
| <b>define</b>                 | function   | <b>loadwords</b>                | function   |
| <b>explicitthyphen</b>        | function   | <b>logger</b>                   | table      |
| <b>flatten</b>                | function   | <b>F report</b>                 |            |
| <b>frequencies</b>            | table      | <b>nofflattened</b>             | function   |
| <b>F averagecharwidth</b>     |            | <b>numbers</b>                  | data table |
| <b>F getdata</b>              |            | <b>postexhyphenchar</b>         | function   |
| <b>getdata</b>                | function   | <b>posthyphenchar</b>           | function   |
| <b>getnumber</b>              | function   | <b>preexhyphenchar</b>          | function   |
| <b>hjcounts</b>               | table      | <b>prehyphenchar</b>            | function   |
| <b>hyphenate</b>              | function   | <b>registered</b>               | data table |
| <b>hyphenators</b>            | table      | <b>replacements</b>             | table      |
| <b>T dictionaries</b>         |            | <b>F add</b>                    |            |
| <b>D featuresets</b>          |            | <b>F addlist</b>                |            |
| <b>F handler</b>              |            | <b>F handler</b>                |            |
| <b>T methods</b>              |            | <b>F set</b>                    |            |
| <b>F expanded</b>             |            | <b>serializediscretionary</b>   | function   |
| <b>B none</b>                 |            | <b>setexceptions</b>            | function   |
| <b>F original</b>             |            | <b>setsynonym</b>               | function   |
| <b>F tex</b>                  |            | <b>showdiscretionaries</b>      | function   |
| <b>F traditional</b>          |            | <b>unload</b>                   | function   |
| <b>F popmethod</b>            |            | <b>urls</b>                     | table      |
| <b>F pushmethod</b>           |            | <b>D characters</b>             |            |
| <b>F setmethod</b>            |            | <b>N lefthyphenmin</b>          |            |
| <b>F setup</b>                |            | <b>D mapping</b>                |            |
| <b>F showhyphenationtrace</b> |            | <b>B packslashes</b>            |            |
| <b>T traditional</b>          |            | <b>N righthyphenmin</b>         |            |
| <b>F definefeatures</b>       |            | <b>F setcharacters</b>          |            |
| <b>F gettrace</b>             |            | <b>version</b>                  | number     |
| <b>F hyphenate</b>            |            | <b>visualizediscretionaries</b> | function   |
| <b>F injecthyphens</b>        |            | <b>words</b>                    | table      |
| <b>F installmethod</b>        |            | <b>F check</b>                  |            |
| <b>F lasttrace</b>            |            | <b>T data</b>                   |            |
| <b>F loadpatterns</b>         |            | <b>F disable</b>                |            |
| <b>F registerexception</b>    |            | <b>F enable</b>                 |            |

T enablers

F load

B enables

T methods

F found

N threshold



# layouts (context)

|                     |                         |
|---------------------|-------------------------|
| <b>status</b> table | F leftorrightpageaction |
| F isleftpage        |                         |

## lfs (extra lua)

**attributes** overloaded function  
**chdir** overloaded function  
**currentdir** function  
**dir** overloaded function  
**isdir** overloaded function  
**isfile** overloaded function  
**isfound** function  
**isreadabledir** function  
**isreadablefile** function  
**iswriteabledir** function

**iswriteablefile** function  
**link** overloaded function  
**mkdir** overloaded function  
**makedirs** function  
**modification** function  
**readlink** function  
**rmdir** overloaded function  
**setexecutable** function  
**symlink** function  
**touch** overloaded function

# libraries (context)

**basiclua** data table  
**basictex** data table  
**builtin** data table  
**extralua** data table

**extratex** data table  
**functions** data table  
**globals** data table

# lmx (context)

|                          |          |
|--------------------------|----------|
| <b>color</b>             | function |
| <b>convert</b>           | function |
| <b>convertfile</b>       | function |
| <b>convertstring</b>     | function |
| <b>einject</b>           | function |
| <b>eprint</b>            | function |
| <b>escape</b>            | function |
| <b>finalized</b>         | function |
| <b>finject</b>           | function |
| <b>fprint</b>            | function |
| <b>get</b>               | function |
| <b>getvariables</b>      | function |
| <b>htmfile</b>           | function |
| <b>html</b>              | table    |
| F a                      |          |
| F td                     |          |
| F th                     |          |
| <b>include</b>           | function |
| <b>inherited</b>         | table    |
| S color-background-four  |          |
| S color-background-one   |          |
| S color-background-three |          |
| S color-background-two   |          |
| S title                  |          |
| <b>initialize</b>        | function |
| <b>inject</b>            | function |
| <b>lmxfile</b>           | function |

|                           |          |
|---------------------------|----------|
| <b>loadedfile</b>         | function |
| <b>make</b>               | function |
| <b>new</b>                | function |
| <b>overloaderror</b>      | function |
| <b>popupfile</b>          | function |
| <b>print</b>              | function |
| <b>pv</b>                 | function |
| <b>report</b>             | function |
| <b>reset</b>              | function |
| <b>result</b>             | function |
| <b>set</b>                | function |
| <b>show</b>               | function |
| <b>showdebuginfo</b>      | function |
| <b>showerror</b>          | function |
| <b>stripcss</b>           | function |
| <b>tv</b>                 | function |
| <b>type</b>               | function |
| <b>urlescape</b>          | function |
| <b>variable</b>           | function |
| <b>variables</b>          | table    |
| S color-background-blue   |          |
| S color-background-body   |          |
| S color-background-green  |          |
| S color-background-main   |          |
| S color-background-purple |          |
| S color-background-yellow |          |
| S title-default           |          |

# logs (context)

|                             |          |                          |          |
|-----------------------------|----------|--------------------------|----------|
| <b>application</b>          | function | <b>reportlines</b>       | function |
| <b>categories</b>           | function | <b>setformats</b>        | function |
| <b>direct</b>               | function | <b>setformatters</b>     | function |
| <b>disable</b>              | function | <b>setlogfile</b>        | function |
| <b>enable</b>               | function | <b>setmessenger</b>      | function |
| <b>exporters</b>            | table    | <b>setprocessor</b>      | function |
| <b>extendbanner</b>         | function | <b>setprogram</b>        | function |
| <b>finalactions</b>         | function | <b>settarget</b>         | function |
| <b>flush</b>                | function | <b>settimedlog</b>       | function |
| <b>help</b>                 | function | <b>settranslations</b>   | function |
| <b>loggingerrors</b>        | function | <b>show</b>              | function |
| <b>messenger</b>            | function | <b>simple</b>            | function |
| <b>new</b>                  | function | <b>simpleline</b>        | function |
| <b>newline</b>              | function | <b>simplelines</b>       | function |
| <b>poptarget</b>            | function | <b>start_page_number</b> | function |
| <b>pushtarget</b>           | function | <b>start_run</b>         | function |
| <b>registerfinalactions</b> | function | <b>starterrorlogging</b> | function |
| <b>report</b>               | function | <b>startfilelogging</b>  | function |
| <b>reportbanner</b>         | function | <b>status</b>            | function |
| <b>reporter</b>             | function | <b>stop_page_number</b>  | function |
| <b>reporters</b>            | table    | <b>stoperrorlogging</b>  | function |
| F banner                    |          | <b>stopfilelogging</b>   | function |
| F export                    |          | <b>subdirect</b>         | function |
| F help                      |          | <b>subreport</b>         | function |
| F info                      |          | <b>system</b>            | function |
| F lines                     |          | <b>texerrormessage</b>   | function |
| F version                   |          | <b>writer</b>            | function |
| <b>reportline</b>           | function |                          |          |

# lpdf (context)

|                                 |            |                                  |          |
|---------------------------------|------------|----------------------------------|----------|
| <b>action</b>                   | function   | <b>destination specification</b> | function |
| <b>adddocumentcolorspace</b>    | function   | <b>dictionary</b>                | function |
| <b>adddocumenttextgstate</b>    | function   | <b>docstring</b>                 | function |
| <b>adddocumentpattern</b>       | function   | <b>epdf</b>                      | table    |
| <b>adddocumentshade</b>         | function   | F analyzefonts                   |          |
| <b>addtocatalog</b>             | function   | F contenttotext                  |          |
| <b>addtoinfo</b>                | function   | F expanded                       |          |
| <b>addtonames</b>               | function   | F getpagecontent                 |          |
| <b>addtopageattributes</b>      | function   | F getstructure                   |          |
| <b>addtopageresources</b>       | function   | T image                          |          |
| <b>addtopagesattributes</b>     | function   | F close                          |          |
| <b>addxmpinfo</b>               | function   | F copy                           |          |
| <b>annotation specification</b> | function   | F new                            |          |
| <b>array</b>                    | function   | F open                           |          |
| <b>attachmentsymbols</b>        | function   | F query                          |          |
| <b>boolean</b>                  | function   | F load                           |          |
| <b>border</b>                   | function   | F parsecontent                   |          |
| <b>checkedkey</b>               | function   | F plugin                         |          |
| <b>checkedvalue</b>             | function   | T resolvers                      |          |
| <b>circularshade</b>            | function   | F destinations                   |          |
| <b>cmykcode</b>                 | function   | F embeddedfiles                  |          |
| <b>collectedresources</b>       | function   | F javascripts                    |          |
| <b>color</b>                    | function   | F layers                         |          |
| <b>colorspace</b>               | function   | F pages                          |          |
| <b>colorspaceconstants</b>      | data table | F structure                      |          |
| <b>colorspec</b>                | function   | F widgets                        |          |
| <b>colorvalue</b>               | function   | F stripcontent                   |          |
| <b>colorvalues</b>              | function   | F unload                         |          |
| <b>commentsymbols</b>           | function   | <b>escaped</b>                   | function |
| <b>compresslevel</b>            | function   | <b>finalizedocument</b>          | function |
| <b>constant</b>                 | function   | <b>finalizefonts</b>             | function |
| <b>copyarray</b>                | function   | <b>finalizepage</b>              | function |
| <b>copyboolean</b>              | function   | <b>finishtransparencycode</b>    | function |
| <b>copyconstant</b>             | function   | <b>flags</b>                     | table    |
| <b>copydictionary</b>           | function   | T annotations                    |          |
| <b>copyfloat</b>                | function   | N AutoView                       |          |
| <b>copyinteger</b>              | function   | N Hidden                         |          |
| <b>copynumber</b>               | function   | N Invisible                      |          |
| <b>copystring</b>               | function   | N Locked                         |          |
| <b>copyunicode</b>              | function   | N LockedContents                 |          |
| <b>delayedobject</b>            | function   | N NoRotate                       |          |

|                       |            |                     |          |
|-----------------------|------------|---------------------|----------|
| N NoView              |            | frompdfdoc          | function |
| N NoZoom              |            | fromsixteen         | function |
| N Print               |            | getcatalog          | function |
| N Printable           |            | getcompression      | function |
| N ReadOnly            |            | getfontname         | function |
| N ToggleNoView        |            | getfontobjnumber    | function |
| N auto                |            | getinfo             | function |
| N hidden              |            | getmapentry         | function |
| N printable           |            | getmetadata         | function |
| T widgets             |            | getnofpages         | function |
| N Comb                |            | getpageproperties   | function |
| N CommitOnSelChange   |            | getpagetags         | function |
| N DoNotScroll         |            | getversion          | function |
| N DoNotSpellCheck     |            | getxformname        | function |
| N Edit                |            | graycode            | function |
| N FileSelect          |            | id                  | function |
| N MultiLine           |            | immediateobj        | function |
| N NoExport            |            | includechar         | function |
| N NoToggleToOff       |            | includecharlist     | function |
| N Password            |            | includefont         | function |
| N PopUp               |            | includeimage        | function |
| N PushButton          |            | injectors           | table    |
| N Radio               |            | F bitmap            |          |
| N RadiosInUnison      |            | F jp2               |          |
| N ReadOnly            |            | F jpg               |          |
| N Required            |            | F png               |          |
| N RichText            |            | injectxmpinfo       | function |
| N Sort                |            | insertxmpinfo       | function |
| N file                |            | layerreference      | function |
| N fixed               |            | limited             | function |
| N nocheck             |            | linearshade         | function |
| N protected           |            | literal             | function |
| N readonly            |            | majorversion        | function |
| N required            |            | makenametree        | function |
| N sorted              |            | minorversion        | function |
| N unavailable         |            | nofpages            | function |
| flushfonts            | function   | null                | function |
| flushgroup            | function   | number              | function |
| flushobject           | function   | obj                 | function |
| flushstreamfileobject | function   | objectcompresslevel | function |
| flushstreamobject     | function   | pagereference       | function |
| formats               | data table | patternstream       | function |
| frombytes             | function   | pdfcolor            | function |
| fromeight             | function   | pdftimestamp        | function |

|                                  |          |                                |          |
|----------------------------------|----------|--------------------------------|----------|
| <b>permitdetail</b>              | function | <b>setpagetag</b>              | function |
| <b>print</b>                     | function | <b>setsuppressoptionalinfo</b> | function |
| <b>procset</b>                   | function | <b>settime</b>                 | function |
| <b>protectresources</b>          | boolean  | <b>settrailerid</b>            | function |
| <b>rectangle</b>                 | function | <b>setversion</b>              | function |
| <b>reference</b>                 | function | <b>shareobject</b>             | function |
| <b>registerannotation</b>        | function | <b>shareobjectreference</b>    | function |
| <b>registerdestination</b>       | function | <b>spotcode</b>                | function |
| <b>registerdocumentfinalizer</b> | function | <b>stream</b>                  | function |
| <b>registerfont</b>              | function | <b>string</b>                  | function |
| <b>registerpagefinalizer</b>     | function | <b>toeight</b>                 | function |
| <b>registerpattern</b>           | function | <b>topdfdoc</b>                | function |
| <b>reserveobject</b>             | function | <b>tosixteen</b>               | function |
| <b>rgbcode</b>                   | function | <b>transparency</b>            | function |
| <b>rotationcm</b>                | function | <b>transparencycode</b>        | function |
| <b>setcompression</b>            | function | <b>transparencygroups</b>      | table    |
| <b>setdates</b>                  | function | B none                         |          |
| <b>setmapfile</b>                | function | <b>transparencyvalue</b>       | function |
| <b>setmapline</b>                | function | <b>unicode</b>                 | function |
| <b>setomitcharset</b>            | function | <b>usedcharacters</b>          | table    |
| <b>setomitcidset</b>             | function | <b>verbose</b>                 | function |
| <b>setpageorder</b>              | function | <b>vfimage</b>                 | function |



## lpeg (basic lua)

|                     |          |                              |            |
|---------------------|----------|------------------------------|------------|
| <b>B</b>            | function | <b>firstofsplit</b>          | function   |
| <b>C</b>            | function | <b>frontstripper</b>         | function   |
| <b>Carg</b>         | function | <b>instringchecker</b>       | function   |
| <b>Cb</b>           | function | <b>is_lpeg</b>               | function   |
| <b>Cc</b>           | function | <b>keeper</b>                | function   |
| <b>Cf</b>           | function | <b>locale</b>                | function   |
| <b>Cg</b>           | function | <b>match</b>                 | function   |
| <b>Cmt</b>          | function | <b>oneof</b>                 | function   |
| <b>Cp</b>           | function | <b>patterns</b>              | data table |
| <b>Cs</b>           | function | <b>pcode</b>                 | function   |
| <b>Ct</b>           | function | <b>print</b>                 | function   |
| <b>P</b>            | function | <b>ptree</b>                 | function   |
| <b>R</b>            | function | <b>replacer</b>              | function   |
| <b>S</b>            | function | <b>secondofsplit</b>         | function   |
| <b>UP</b>           | function | <b>setmaxstack</b>           | function   |
| <b>UR</b>           | function | <b>setutfcasers</b>          | function   |
| <b>US</b>           | function | <b>split</b>                 | function   |
| <b>V</b>            | function | <b>splitat</b>               | function   |
| <b>afterprefix</b>  | function | <b>splitter</b>              | function   |
| <b>anywhere</b>     | function | <b>stripper</b>              | function   |
| <b>append</b>       | function | <b>times</b>                 | function   |
| <b>balancer</b>     | function | <b>tsplitat</b>              | function   |
| <b>beforesuffix</b> | function | <b>tsplitter</b>             | function   |
| <b>checkedsplit</b> | function | <b>type</b>                  | function   |
| <b>containsws</b>   | function | <b>utfchartabletopattern</b> | function   |
| <b>counter</b>      | function | <b>utfreplacer</b>           | function   |
| <b>endstripper</b>  | function | <b>version</b>               | function   |
| <b>finder</b>       | function |                              |            |

# lua (basic tex)

|                            |                     |
|----------------------------|---------------------|
| <b>bytecode</b>            | table               |
| <b>bytedata</b>            | data table          |
| <b>bytdone</b>             | table               |
| <b>callbytecode</b>        | function            |
| <b>collectgarbage</b>      | function            |
| <b>delay</b>               | function            |
| <b>finalize</b>            | function            |
| <b>firstbytecode</b>       | number              |
| <b>flush</b>               | function            |
| <b>flushdelayed</b>        | function            |
| <b>get_functions_table</b> | function            |
| <b>getbytecode</b>         | function            |
| <b>getcurrenttime</b>      | function            |
| <b>getfunctionstable</b>   | overloaded function |
| <b>gethashchars</b>        | function            |
| <b>getpreciseseconds</b>   | function            |
| <b>getpreciseticks</b>     | function            |
| <b>getruntime</b>          | function            |
| <b>getstacktop</b>         | function            |
| <b>getstartupfile</b>      | function            |
| <b>getversion</b>          | function            |

|                          |            |
|--------------------------|------------|
| <b>lastbytecode</b>      | number     |
| <b>macros</b>            | table      |
| B enabled                |            |
| F loaded                 |            |
| F required               |            |
| F reset                  |            |
| F resolvestring          |            |
| F resolving              |            |
| F showdefinitions        |            |
| <b>messages</b>          | data table |
| <b>newindex</b>          | function   |
| <b>newtable</b>          | function   |
| <b>numbers</b>           | data table |
| <b>registercode</b>      | function   |
| <b>registeredcodes</b>   | function   |
| <b>registerfinalizer</b> | function   |
| <b>registername</b>      | function   |
| <b>setbytecode</b>       | function   |
| <b>setexitcode</b>       | function   |
| <b>startupfile</b>       | string     |
| <b>version</b>           | string     |

# luatex (context)

|                             |          |                    |          |
|-----------------------------|----------|--------------------|----------|
| <b>abort</b>                | function | F finish           |          |
| <b>cleanup</b>              | function | F pause            |          |
| <b>cleanuptempfiles</b>     | function | F popline          |          |
| <b>currentfile</b>          | function | F pushline         |          |
| <b>registerdumpactions</b>  | function | F registerdisabler |          |
| <b>registerpageactions</b>  | function | F registerenabler  |          |
| <b>registerstartactions</b> | function | F resetfilename    |          |
| <b>registerstopactions</b>  | function | F resume           |          |
| <b>registertempfile</b>     | function | F setfilename      |          |
| <b>starttime</b>            | number   | F setup            |          |
| <b>synctex</b>              | table    | F start            |          |
| F blockfilename             |          | F stop             |          |
| F collect                   |          | F wrapup           |          |
| F disable                   |          | <b>wrapup</b>      | function |
| F enable                    |          |                    |          |

# lxml (context)

|                          |            |                         |                     |
|--------------------------|------------|-------------------------|---------------------|
| <b>addindex</b>          | function   | <b>first</b>            | function            |
| <b>all</b>               | function   | <b>flush</b>            | function            |
| <b>applyfunction</b>     | function   | <b>flushlinewise</b>    | function            |
| <b>applyselectors</b>    | function   | <b>flushsetups</b>      | function            |
| <b>att</b>               | function   | <b>flushspacewise</b>   | function            |
| <b>attribute</b>         | function   | <b>get_id</b>           | <del>function</del> |
| <b>badinclusions</b>     | function   | <b>getid</b>            | function            |
| <b>chainattribute</b>    | function   | <b>getindex</b>         | function            |
| <b>checkindex</b>        | function   | <b>id</b>               | function            |
| <b>collected</b>         | function   | <b>idsplitter</b>       | userdata            |
| <b>command</b>           | function   | <b>include</b>          | function            |
| <b>concat</b>            | function   | <b>inclusion</b>        | function            |
| <b>concatrange</b>       | function   | <b>inclusions</b>       | function            |
| <b>content</b>           | function   | <b>index</b>            | function            |
| <b>context</b>           | function   | <b>inlineverbatimim</b> | function            |
| <b>convert</b>           | function   | <b>installsetup</b>     | function            |
| <b>count</b>             | function   | <b>last</b>             | function            |
| <b>delete</b>            | function   | <b>lastatt</b>          | function            |
| <b>depth</b>             | function   | <b>lastmatch</b>        | function            |
| <b>direct</b>            | function   | <b>lastpar</b>          | function            |
| <b>directives</b>        | table      | <b>load</b>             | function            |
| F after                  |            | <b>loadbuffer</b>       | function            |
| F before                 |            | <b>loaddata</b>         | function            |
| F handle                 |            | <b>loaded</b>           | table               |
| F load                   |            | <b>main</b>             | function            |
| F setup                  |            | <b>match</b>            | function            |
| <b>displayverbatimim</b> | function   | <b>name</b>             | function            |
| <b>doif</b>              | function   | <b>namespace</b>        | function            |
| <b>doifelse</b>          | function   | <b>nonspace</b>         | function            |
| <b>doifelseempty</b>     | function   | <b>par</b>              | function            |
| <b>doifelsetext</b>      | function   | <b>param</b>            | function            |
| <b>doifempty</b>         | function   | <b>parameter</b>        | function            |
| <b>doifnot</b>           | function   | <b>path</b>             | function            |
| <b>doifnotempty</b>      | function   | <b>popmatch</b>         | function            |
| <b>doifnottext</b>       | function   | <b>pos</b>              | function            |
| <b>doiftext</b>          | function   | <b>position</b>         | function            |
| <b>element</b>           | function   | <b>pure</b>             | function            |
| <b>elements</b>          | function   | <b>pushmatch</b>        | function            |
| <b>entities</b>          | data table | <b>raw</b>              | function            |
| <b>filter</b>            | function   | <b>rawroot</b>          | function            |
| <b>filterlist</b>        | function   | <b>rawtex</b>           | function            |

|                         |          |                         |            |
|-------------------------|----------|-------------------------|------------|
| <b>refatt</b>           | function | F add                   |            |
| <b>register</b>         | function | F compare               |            |
| <b>registerentity</b>   | function | F flush                 |            |
| <b>removesetup</b>      | function | F reset                 |            |
| <b>replace</b>          | function | F show                  |            |
| <b>resetcdata</b>       | function | F sort                  |            |
| <b>resetsetups</b>      | function | <b>splitid</b>          | function   |
| <b>resolvedentity</b>   | function | <b>startraw</b>         | function   |
| <b>root</b>             | function | <b>startunesescaped</b> | function   |
| <b>save</b>             | function | <b>stopraw</b>          | function   |
| <b>serialize</b>        | function | <b>stopunesescaped</b>  | function   |
| <b>setaction</b>        | function | <b>store</b>            | function   |
| <b>setatt</b>           | function | <b>strip</b>            | function   |
| <b>setattribute</b>     | function | <b>stripped</b>         | function   |
| <b>setcdata</b>         | function | <b>tag</b>              | function   |
| <b>setcommandtonone</b> | function | <b>text</b>             | function   |
| <b>setcommandtotext</b> | function | <b>tobuffer</b>         | function   |
| <b>setpar</b>           | function | <b>tofile</b>           | function   |
| <b>setparam</b>         | function | <b>toparameters</b>     | function   |
| <b>setparameter</b>     | function | <b>toverbatim</b>       | function   |
| <b>setsetup</b>         | function | <b>verbatim</b>         | function   |
| <b>snippet</b>          | function | <b>withindex</b>        | function   |
| <b>sorters</b>          | table    | <b>xmltexhandler</b>    | data table |

## math (basic lua)

|                    |          |                       |                     |
|--------------------|----------|-----------------------|---------------------|
| <b>abs</b>         | function | <b>min</b>            | function            |
| <b>acos</b>        | function | <b>mininteger</b>     | number              |
| <b>asin</b>        | function | <b>mod</b>            | function            |
| <b>atan</b>        | function | <b>modf</b>           | function            |
| <b>atan2</b>       | function | <b>odd</b>            | function            |
| <b>ceil</b>        | function | <b>pi</b>             | number              |
| <b>ceiling</b>     | function | <b>pow</b>            | function            |
| <b>cos</b>         | function | <b>rad</b>            | function            |
| <b>cosd</b>        | function | <b>random</b>         | overloaded function |
| <b>cosh</b>        | function | <b>randomseed</b>     | function            |
| <b>deg</b>         | function | <b>round</b>          | function            |
| <b>div</b>         | function | <b>setrandomseedi</b> | function            |
| <b>even</b>        | function | <b>sin</b>            | function            |
| <b>exp</b>         | function | <b>sind</b>           | function            |
| <b>floor</b>       | function | <b>sinh</b>           | function            |
| <b>fmod</b>        | function | <b>sqrt</b>           | function            |
| <b>huge</b>        | number   | <b>tan</b>            | function            |
| <b>initialseed</b> | number   | <b>tand</b>           | function            |
| <b>ldexp</b>       | function | <b>tanh</b>           | function            |
| <b>log</b>         | function | <b>tointeger</b>      | function            |
| <b>log10</b>       | function | <b>type</b>           | function            |
| <b>max</b>         | function | <b>ult</b>            | function            |
| <b>maxinteger</b>  | number   |                       |                     |

# mathematics (context)

|                               |            |                               |            |
|-------------------------------|------------|-------------------------------|------------|
| <b>addfallbacks</b>           | function   | <b>mapremap</b>               | data table |
| <b>alphabets</b>              | data table | <b>overloadadditions</b>      | function   |
| <b>alternatives</b>           | data table | <b>overloadparameters</b>     | function   |
| <b>big</b>                    | function   | <b>privatebase</b>            | number     |
| <b>boldmap</b>                | data table | <b>registerdomain</b>         | function   |
| <b>categories</b>             | table      | <b>registerfallbackid</b>     | function   |
| D functions                   |            | <b>remapalphabets</b>         | function   |
| <b>charactersets</b>          | data table | <b>renderings</b>             | table      |
| <b>checkaccentbaseheight</b>  | function   | D mappings                    |            |
| <b>checkprivateparameters</b> | function   | D numbers                     |            |
| <b>classes</b>                | data table | D sets                        |            |
| <b>codes</b>                  | data table | <b>renderset</b>              | function   |
| <b>define</b>                 | function   | <b>resetattributes</b>        | function   |
| <b>dimensions</b>             | function   | <b>resetitalics</b>           | function   |
| <b>domains</b>                | table      | <b>resolvefallbacks</b>       | function   |
| <b>extensiblecode</b>         | function   | <b>scaleparameters</b>        | function   |
| <b>extensibles</b>            | data table | <b>setdomain</b>              | function   |
| <b>extrabase</b>              | number     | <b>setitalics</b>             | function   |
| <b>extras</b>                 | table      | <b>setridofprime</b>          | function   |
| F add                         |            | <b>sets</b>                   | data table |
| F copy                        |            | <b>styles</b>                 | data table |
| <b>fallbacks</b>              | table      | <b>syncboth</b>               | function   |
| F apply                       |            | <b>syncname</b>               | function   |
| F install                     |            | <b>syncstyle</b>              | function   |
| <b>fallbackstyleattr</b>      | function   | <b>toname</b>                 | function   |
| <b>families</b>               | data table | <b>tostyle</b>                | function   |
| <b>finishfallbacks</b>        | function   | <b>tweakaftercopyingfont</b>  | function   |
| <b>gaps</b>                   | data table | <b>tweakbeforecopyingfont</b> | function   |
| <b>getboth</b>                | function   | <b>tweaks</b>                 | table      |
| <b>getdomain</b>              | function   | <b>utfmathaccent</b>          | function   |
| <b>getitalics</b>             | function   | <b>utfmathclass</b>           | function   |
| <b>getridofprime</b>          | function   | <b>utfmathcommand</b>         | function   |
| <b>getstyle</b>               | function   | <b>utfmathfiller</b>          | function   |
| <b>horizontalcode</b>         | function   | <b>utfmathstretch</b>         | function   |
| <b>initializeparameters</b>   | function   | <b>virtualize</b>             | function   |
| <b>makefont</b>               | function   | <b>virtualized</b>            | data table |

## md5 (extra lua)

**HEX**    function  
**dec**    function  
**hex**    function

**sum**    function  
**sumHEX** function  
**sumhex** function



# metapost (context)

|                    |          |                   |
|--------------------|----------|-------------------|
| <b>checkformat</b> | function | N newinternal     |
| <b>cm</b>          | function | N nullary         |
| <b>codes</b>       | table    | N numeric         |
| N addto            |          | N of              |
| N ampersand        |          | N ofbinary        |
| N and              |          | N outertag        |
| N assignment       |          | N parametertype   |
| N atleast          |          | N plus_or_minus   |
| N begingroup       |          | N primarybinary   |
| N btex             |          | N primarydef      |
| N capsule          |          | N randomseed      |
| N colon            |          | N relax           |
| N comma            |          | N repeat_loop     |
| N controls         |          | N rightbrace      |
| N curl             |          | N rightbracket    |
| N cycle            |          | N rightdelimiter  |
| N declare          |          | N runscript       |
| N def              |          | N save            |
| N definedmacro     |          | N scantokens      |
| N delimiters       |          | N scope           |
| N endgroup         |          | N secondarybinary |
| N equals           |          | N secondarydef    |
| N etex             |          | N semicolon       |
| N everyjob         |          | N setbounds       |
| N exitif           |          | N shipout         |
| N expandafter      |          | N show            |
| N fi_or_else       |          | N skip            |
| N if               |          | N slash           |
| N input            |          | N special         |
| N interim          |          | N step            |
| N internal         |          | N stop            |
| N iteration        |          | N str             |
| N join             |          | N string          |
| N leftbrace        |          | N tag             |
| N leftbracket      |          | N tension         |
| N leftdelimiter    |          | N tertiarybinary  |
| N let              |          | N tertiarydef     |
| N macrospecial     |          | N thingstoadd     |
| N maketext         |          | N to              |
| N message          |          | N unary           |
| N mode             |          | N undefinedcs     |

|                  |            |                      |          |
|------------------|------------|----------------------|----------|
| N until          |            | getParameter         | function |
| N void           |            | getParameterSet      | function |
| N with           |            | getStatistics        | function |
| N within         |            | getText              | function |
| N write          |            | graphic              | function |
| colorinitializer | function   | graphic_base_pass    | function |
| comment          | function   | includesvgbuffer     | function |
| convert          | function   | includesvgfile       | function |
| currentmpx       | function   | installplugin        | function |
| currentmpxstatus | function   | isobject             | function |
| defaultformat    | string     | lastlog              | string   |
| defaultinstance  | string     | load                 | function |
| defaultmethod    | string     | maketext             | function |
| directrun        | function   | metafun              | table    |
| escaped          | function   | F interpolate        |          |
| exectime         | table      | F topath             |          |
| extensiondata    | data table | mptopdf              | table    |
| filterclippath   | function   | F convertmpstopdf    |          |
| flush            | function   | N nofconverted       |          |
| flushers         | table      | n                    | number   |
| T pdf            |            | nofruns              | number   |
| F comment        |            | nofscriptruns        | function |
| F flushfigure    |            | nvformat             | function |
| F startfigure    |            | pdf literals         | function |
| F stopfigure     |            | pluginactions        | function |
| F textfigure     |            | popformat            | function |
| flushliteral     | function   | popscriptrunner      | function |
| flushnormalpath  | function   | popvariable          | function |
| flushreset       | function   | popvariables         | function |
| fonts            | table      | preparetexttextsdata | function |
| F define         |            | process              | function |
| T flusher        |            | processing           | function |
| F flushfigure    |            | processplugins       | function |
| F startfigure    |            | processspecial       | function |
| F stopfigure     |            | properties           | table    |
| N instances      |            | pushformat           | function |
| F process        |            | pushscriptrunner     | function |
| format_number    | function   | pushvariable         | function |
| format_string    | function   | pushvariables        | function |
| formatnumber     | function   | reducetogray         | boolean  |
| getclippath      | function   | registerscript       | function |
| getextensions    | function   | remappedtext         | function |
| getextradata     | function   | remaptext            | function |
| getjobdata       | function   | reporterror          | function |

|                         |          |
|-------------------------|----------|
| <b>reportsvgfonts</b>   | function |
| <b>reset</b>            | function |
| <b>resetlastlog</b>     | function |
| <b>resetplugins</b>     | function |
| <b>run</b>              | function |
| <b>runscript</b>        | function |
| <b>scanparameters</b>   | function |
| <b>scripterror</b>      | function |
| <b>scriptindex</b>      | function |
| <b>setextensions</b>    | function |
| <b>setoutercolor</b>    | function |
| <b>setparameterset</b>  | function |
| <b>settext</b>          | function |
| <b>setvariable</b>      | function |
| <b>showlog</b>          | boolean  |
| <b>showsvgpage</b>      | function |
| <b>simple</b>           | function |
| <b>splitprescript</b>   | function |
| <b>startgraphic</b>     | function |
| <b>startsvghashing</b>  | function |
| <b>stopgraphic</b>      | function |
| <b>stopsvghashing</b>   | function |
| <b>svformat</b>         | function |
| <b>svgcolorremapper</b> | function |
| <b>svgglyphtomp</b>     | function |
| <b>svgshapestomp</b>    | function |
| <b>svgshapestopdf</b>   | function |
| <b>svgsplitcolor</b>    | function |
| <b>svgtomp</b>          | function |
| <b>svgtopdf</b>         | function |
| <b>sxsy</b>             | function |
| <b>tex</b>              | table    |
| F get                   |          |
| F reset                 |          |
| F set                   |          |

|                      |          |
|----------------------|----------|
| F setfrombuffer      |          |
| <b>texerrors</b>     | boolean  |
| <b>texexp</b>        | function |
| <b>theclippath</b>   | function |
| <b>tographic</b>     | function |
| <b>totable</b>       | function |
| <b>types</b>         | table    |
| N boolean            |          |
| N cmykcolor          |          |
| N color              |          |
| N dependent          |          |
| N independent        |          |
| N known              |          |
| N numeric            |          |
| N pair               |          |
| N path               |          |
| N pen                |          |
| N picture            |          |
| N protodependent     |          |
| N string             |          |
| N structured         |          |
| N suffixedmacro      |          |
| N tokenlist          |          |
| N transform          |          |
| N unknownboolean     |          |
| N unknownpath        |          |
| N unknownpen         |          |
| N unknownpicture     |          |
| N unknownstring      |          |
| N unsuffixedmacro    |          |
| N vacuum             |          |
| <b>typesvgpage</b>   | function |
| <b>unload</b>        | function |
| <b>untagvariable</b> | function |
| <b>variables</b>     | table    |

## mime (extra lua)

**b64**           function

**decode**       function

**decodet**     table

    F base64

    F quoted-printable

**dot**           function

**encode**       function

**encodet**     table

    F base64

    F quoted-printable

**eol**           function

**normalize**   function

**qp**           function

**qpwrp**       function

**report**       function

**stuff**       function

**unb64**       function

**unqp**        function

**wrap**        function

**wrapt**       table

    F base64

    F default

    F quoted-printable

    F text

**wrp**          function

## mp (context)

|                   |          |                    |          |
|-------------------|----------|--------------------|----------|
| <u>get_count</u>  | function | <b>color</b>       | function |
| <u>get_dimen</u>  | function | <b>dataset</b>     | function |
| <u>get_macro</u>  | function | <b>datasets</b>    | function |
| <u>get_toks</u>   | function | F load             |          |
| <u>set_count</u>  | function | <b>dimension</b>   | function |
| <u>set_dimen</u>  | function | <b>direct</b>      | function |
| <u>set_macro</u>  | function | <b>direct1</b>     | function |
| <u>set_toks</u>   | function | <b>direct2</b>     | function |
| <b>autoinject</b> | function | <b>direct3</b>     | function |
| <b>aux</b>        | table    | <b>direct4</b>     | function |
| F boolean         |          | <b>disposehash</b> | function |
| F color           |          | <b>draw</b>        | function |
| F direct          |          | <b>fill</b>        | function |
| F direct1         |          | <b>flatten</b>     | function |
| F direct2         |          | <b>flush</b>       | function |
| F direct3         |          | <b>format</b>      | function |
| F direct4         |          | <b>formatted</b>   | function |
| F draw            |          | <b>fprint</b>      | function |
| F fill            |          | <b>fromhash</b>    | function |
| F flush           |          | <b>get</b>         | table    |
| F fprint          |          | <b>getcount</b>    | function |
| F integer         |          | <b>getdimen</b>    | function |
| F number          |          | <b>getmacro</b>    | function |
| F numeric         |          | <b>gettoks</b>     | function |
| F pair            |          | <b>graphformat</b> | function |
| F pairpoints      |          | <b>inhash</b>      | function |
| F path            |          | <b>inject</b>      | function |
| F pathpoints      |          | F boolean          |          |
| F points          |          | F cmykcolor        |          |
| F print           |          | F color            |          |
| F quadruple       |          | F integer          |          |
| F quadruplepoints |          | F number           |          |
| F quoted          |          | F numeric          |          |
| F size            |          | F pair             |          |
| F string          |          | F path             |          |
| F transform       |          | F string           |          |
| F triplet         |          | F transform        |          |
| F tripletpoints   |          | F whatever         |          |
| F vprint          |          | <b>integer</b>     | function |
| <b>boolean</b>    | function | <b>isarray</b>     | function |
| <b>cleaned</b>    | function | <b>isobject</b>    | function |

|                                      |          |                               |          |
|--------------------------------------|----------|-------------------------------|----------|
| <b>lmt_color_functions</b>           | table    | <b>mf_blob_raw_content</b>    | function |
| F shade                              |          | <b>mf_blob_raw_dimensions</b> | function |
| F step                               |          | <b>mf_blob_raw_reset</b>      | function |
| <b>lmt_contours_bitmap_get</b>       | function | <b>mf_blob_raw_toutf</b>      | function |
| <b>lmt_contours_bitmap_set</b>       | function | <b>mf_blob_raw_wipe</b>       | function |
| <b>lmt_contours_cleanup</b>          | function | <b>mf_blob_size</b>           | function |
| <b>lmt_contours_color</b>            | function | <b>mf_blob_width</b>          | function |
| <b>lmt_contours_edge_get_band</b>    | function | <b>mf_external_figure</b>     | function |
| <b>lmt_contours_edge_get_cell</b>    | function | <b>mf_finish_saving_data</b>  | function |
| <b>lmt_contours_edge_paths</b>       | function | <b>mf_formatted_text</b>      | function |
| <b>lmt_contours_edge_set</b>         | function | <b>mf_get_outline_text</b>    | function |
| <b>lmt_contours_edge_set_by_band</b> | function | <b>mf_graphic_text</b>        | function |
| <b>lmt_contours_edge_set_by_cell</b> | function | <b>mf_inject_blob</b>         | function |
| <b>lmt_contours_format</b>           | function | <b>mf_made_text</b>           | function |
| <b>lmt_contours_function</b>         | function | <b>mf_map_move</b>            | function |
| <b>lmt_contours_maxmean</b>          | function | <b>mf_map_text</b>            | function |
| <b>lmt_contours_maxz</b>             | function | <b>mf_named_color</b>         | function |
| <b>lmt_contours_minmean</b>          | function | <b>mf_outline_text</b>        | function |
| <b>lmt_contours_minz</b>             | function | <b>mf_save_data</b>           | function |
| <b>lmt_contours_nofvalues</b>        | function | <b>mf_script_index</b>        | function |
| <b>lmt_contours_nx</b>               | function | <b>mf_some_text</b>           | function |
| <b>lmt_contours_ny</b>               | function | <b>mf_start_saving_data</b>   | function |
| <b>lmt_contours_range</b>            | function | <b>mf_stop_saving_data</b>    | function |
| <b>lmt_contours_shade_paths</b>      | function | <b>mf_tb_dimensions</b>       | function |
| <b>lmt_contours_shade_set</b>        | function | <b>mf_tt_dimensions</b>       | function |
| <b>lmt_contours_shape_paths</b>      | function | <b>mf_tt_initialize</b>       | function |
| <b>lmt_contours_start</b>            | function | <b>mode</b>                   | function |
| <b>lmt_contours_stop</b>             | function | <b>n</b>                      | function |
| <b>lmt_contours_value</b>            | function | <b>newhash</b>                | function |
| <b>lmt_contours_xrange</b>           | function | <b>number</b>                 | function |
| <b>lmt_contours_yrange</b>           | function | <b>numeric</b>                | function |
| <b>lmt_do_remaptext</b>              | function | <b>pair</b>                   | function |
| <b>lmt_function_x</b>                | function | <b>pairpoints</b>             | function |
| <b>lmt_mesh_set</b>                  | function | <b>path</b>                   | function |
| <b>lmt_mesh_update</b>               | function | <b>pathpoints</b>             | function |
| <b>lmt_poisson_generate</b>          | function | <b>points</b>                 | function |
| <b>lmt_register_glyph</b>            | function | <b>positionanchor</b>         | function |
| <b>lmt_register_glyphs</b>           | function | <b>positionbox</b>            | function |
| <b>lmt_surface_do</b>                | function | <b>positioncurve</b>          | function |
| <b>lmt_svg_include</b>               | function | <b>positionpage</b>           | function |
| <b>mf_blob_add</b>                   | function | <b>positionpath</b>           | function |
| <b>mf_blob_dimensions</b>            | function | <b>positionpxy</b>            | function |
| <b>mf_blob_index</b>                 | function | <b>positionregion</b>         | function |
| <b>mf_blob_new</b>                   | function | <b>positionwhd</b>            | function |

|                        |          |                       |          |
|------------------------|----------|-----------------------|----------|
| <b>positionxy</b>      | function | F token               |          |
| <b>prefix</b>          | function | F transform           |          |
| <b>print</b>           | function | <b>set</b>            | table    |
| <b>processingmode</b>  | function | <b>setcount</b>       | function |
| <b>quadruple</b>       | function | <b>setdimen</b>       | function |
| <b>quadruplepoints</b> | function | <b>setmacro</b>       | function |
| <b>quoted</b>          | function | <b>settoks</b>        | function |
| <b>report</b>          | function | <b>size</b>           | function |
| <b>scan</b>            | table    | <b>solve</b>          | function |
| F boolean              |          | <b>string</b>         | function |
| F cmykcolor            |          | <b>systemmode</b>     | function |
| F color                |          | <b>texstr</b>         | function |
| F expression           |          | <b>texttextanchor</b> | function |
| F integer              |          | <b>texvar</b>         | function |
| F next                 |          | <b>tohash</b>         | function |
| F number               |          | <b>transform</b>      | function |
| F numeric              |          | <b>triplet</b>        | function |
| F pair                 |          | <b>tripletpoints</b>  | function |
| F path                 |          | <b>utflen</b>         | function |
| F pen                  |          | <b>utfsub</b>         | function |
| F string               |          | <b>vprint</b>         | function |
| F symbol               |          |                       |          |

## mplib (extra tex)

|                         |                     |                         |          |
|-------------------------|---------------------|-------------------------|----------|
| <b>codes</b>            | function            | <b>realtime logging</b> | boolean  |
| <b>execute</b>          | function            | <b>scan_boolean</b>     | function |
| <b>fields</b>           | function            | <b>scan_cmykcolor</b>   | function |
| <b>finder</b>           | function            | <b>scan_color</b>       | function |
| <b>finders</b>          | table               | <b>scan_expression</b>  | function |
| F file                  |                     | <b>scan_integer</b>     | function |
| F mpstemplate           |                     | <b>scan_next</b>        | function |
| <b>finish</b>           | function            | <b>scan_number</b>      | function |
| <b>getcallbackstate</b> | function            | <b>scan_numeric</b>     | function |
| <b>inject_boolean</b>   | function            | <b>scan_pair</b>        | function |
| <b>inject_cmykcolor</b> | function            | <b>scan_path</b>        | function |
| <b>inject_color</b>     | function            | <b>scan_pen</b>         | function |
| <b>inject_integer</b>   | function            | <b>scan_string</b>      | function |
| <b>inject_number</b>    | function            | <b>scan_symbol</b>      | function |
| <b>inject_numeric</b>   | function            | <b>scan_token</b>       | function |
| <b>inject_pair</b>      | function            | <b>scan_transform</b>   | function |
| <b>inject_path</b>      | function            | <b>solve_path</b>       | function |
| <b>inject_string</b>    | function            | <b>statistics</b>       | function |
| <b>inject_transform</b> | function            | <b>status</b>           | function |
| <b>inject_whatever</b>  | function            | <b>types</b>            | function |
| <b>new</b>              | overloaded function | <b>version</b>          | function |
| <b>pen_info</b>         | function            |                         |          |



# noads (context)

|                 |       |                      |            |
|-----------------|-------|----------------------|------------|
| <b>handlers</b> | table |                      | F resize   |
| F align         |       |                      | F showtree |
| F alternates    |       |                      | F tags     |
| F autofences    |       |                      | F unscript |
| F classes       |       |                      | F unstack  |
| F collapse      |       |                      | F variants |
| F domains       |       | <b>process</b>       | function   |
| F families      |       | <b>processnested</b> | function   |
| F fixscripts    |       | <b>processors</b>    | table      |
| F italics       |       | F mlist_to_hlist     |            |
| F kernpairs     |       | T unscript           |            |
| F makeup        |       | T unstack            |            |
| F relocate      |       | <b>processouter</b>  | function   |
| F render        |       |                      |            |

## node (basic tex)

|                              |          |                     |
|------------------------------|----------|---------------------|
| <b>check_discretionaries</b> | function | F getfont           |
| <b>check_discretionary</b>   | function | F getglue           |
| <b>copy</b>                  | function | F getglyphdata      |
| <b>copy_list</b>             | function | F getheight         |
| <b>count</b>                 | function | F getid             |
| <b>current_attr</b>          | function | F getkern           |
| <b>dimensions</b>            | function | F getlang           |
| <b>direct</b>                | table    | F getleader         |
| F check_discretionaries      |          | F getlist           |
| F check_discretionary        |          | F getnext           |
| F copy                       |          | F getnormalizedline |
| F copy_list                  |          | F getnucleus        |
| F copy_only                  |          | F getoffsets        |
| F count                      |          | F getorientation    |
| F current_attr               |          | F getparstate       |
| F dimensions                 |          | F getpenalty        |
| F effective_glue             |          | F getpost           |
| F end_of_math                |          | F getpre            |
| F exchange                   |          | F getprev           |
| F find_attribute             |          | F getproperty       |
| F find_attribute_range       |          | F getreplace        |
| F find_node                  |          | F getscript         |
| F first_glyph                |          | F getshift          |
| F flatten_discretionaries    |          | F getstate          |
| F flush_list                 |          | F getsub            |
| F flush_node                 |          | F getsubpre         |
| F free                       |          | F getsubtype        |
| F get_attribute              |          | F getsup            |
| F get_properties_table       |          | F getsuppre         |
| F get_synctex_fields         |          | F gettotal          |
| F getattributelist           |          | F getwhd            |
| F getboth                    |          | F getwidth          |
| F getbox                     |          | F glyphdimensions   |
| F getchar                    |          | F has_attribute     |
| F getdata                    |          | F has_dimensions    |
| F getdepth                   |          | F has_field         |
| F getdirection               |          | F has_glyph         |
| F getdisc                    |          | F hpack             |
| F getexpansion               |          | F hyphenating       |
| F getfam                     |          | F ignore_math_skip  |
| F getfield                   |          | F insert_after      |

F insert\_before  
F is\_char  
F is\_direct  
F is\_glyph  
F is\_node  
F is\_valid  
F is\_zero\_glue  
F kerning  
F last\_node  
F length  
F ligaturing  
F make\_extensible  
F migrate  
F mlist\_to\_hlist  
F naturalwidth  
F new  
F prepend\_prevdepth  
F protect\_glyph  
F protect\_glyphs  
F protrusion\_skippable  
F rangedimensions  
F remove  
F reverse  
F set\_attribute  
F set\_synctex\_fields  
F setattributelist  
F setboth  
F setbox  
F setchar  
F setdata  
F setdepth  
F setdirection  
F setdisc  
F setexpansion  
F setfam  
F setfield  
F setfont  
F setglue  
F setglyphdata  
F setheight  
F setkern  
F setlang  
F setleader  
F setlink

F setlist  
F setnext  
F setnucleus  
F setoffsets  
F setorientation  
F setpenalty  
F setpost  
F setpre  
F setprev  
F setproperty  
F setreplace  
F setscript  
F setshift  
F setsplit  
F setstate  
F setsub  
F setsubpre  
F setsubtype  
F setup  
F setsuppre  
F setwhd  
F setwidth  
F slide  
F start\_of\_par  
F tail  
F todirect  
F tonode  
F toString  
F tovaliddirect  
F traverse  
F traverse\_char  
F traverse\_glyph  
F traverse\_id  
F traverse\_list  
F type  
F unprotect\_glyph  
F unprotect\_glyphs  
F unset\_attribute  
F usedlist  
F uses\_font  
F vertical\_break  
F vpack  
F write

**effective\_glue**

function

|                                |          |                                 |          |
|--------------------------------|----------|---------------------------------|----------|
| <b>end_of_math</b>             | function | <b>new</b>                      | function |
| <b>family_font</b>             | function | <b>optimize_unset_attribute</b> | function |
| <b>fields</b>                  | function | <b>prepend_prevdepth</b>        | function |
| <b>find_attribute</b>          | function | <b>protect_glyph</b>            | function |
| <b>first_glyph</b>             | function | <b>protect_glyphs</b>           | function |
| <b>flatten_discretionaries</b> | function | <b>protrusion_skippable</b>     | function |
| <b>flush_list</b>              | function | <b>rangedimensions</b>          | function |
| <b>flush_node</b>              | function | <b>remove</b>                   | function |
| <b>free</b>                    | function | <b>set_attribute</b>            | function |
| <b>get_attribute</b>           | function | <b>set_glue</b>                 | function |
| <b>get_glue</b>                | function | <b>setfield</b>                 | function |
| <b>get_properties_table</b>    | function | <b>setproperty</b>              | function |
| <b>getfield</b>                | function | <b>slide</b>                    | function |
| <b>getproperty</b>             | function | <b>subtypes</b>                 | function |
| <b>has_attribute</b>           | function | <b>tail</b>                     | function |
| <b>has_field</b>               | function | <b>tostring</b>                 | function |
| <b>has_glyph</b>               | function | <b>traverse</b>                 | function |
| <b>hpack</b>                   | function | <b>traverse_char</b>            | function |
| <b>hyphenating</b>             | function | <b>traverse_glyph</b>           | function |
| <b>id</b>                      | function | <b>traverse_id</b>              | function |
| <b>insert_after</b>            | function | <b>traverse_list</b>            | function |
| <b>insert_before</b>           | function | <b>type</b>                     | function |
| <b>inuse</b>                   | function | <b>types</b>                    | function |
| <b>is_node</b>                 | function | <b>unprotect_glyph</b>          | function |
| <b>is_zero_glue</b>            | function | <b>unprotect_glyphs</b>         | function |
| <b>kerning</b>                 | function | <b>unset_attribute</b>          | function |
| <b>last_node</b>               | function | <b>usedlist</b>                 | function |
| <b>length</b>                  | function | <b>uses_font</b>                | function |
| <b>ligaturing</b>              | function | <b>values</b>                   | function |
| <b>make_extensible</b>         | function | <b>vpack</b>                    | function |
| <b>mlist_to_hlist</b>          | function | <b>write</b>                    | function |

# nodes (context)

|                              |            |                                |            |
|------------------------------|------------|--------------------------------|------------|
| <b>accentcodes</b>           | data table | <b>discretionarycodes</b>      | data table |
| <b>aligned</b>               | function   | <b>effective_glue</b>          | function   |
| <b>append</b>                | function   | <b>end_of_math</b>             | function   |
| <b>apply</b>                 | function   | <b>fencecodes</b>              | data table |
| <b>applyvisuals</b>          | function   | <b>fields</b>                  | function   |
| <b>astable</b>               | function   | <b>fillcodes</b>               | data table |
| <b>basepoints</b>            | function   | <b>find_attribute</b>          | function   |
| <b>boundarycodes</b>         | data table | <b>first_glyph</b>             | function   |
| <b>boxes</b>                 | table      | <b>firstcharacter</b>          | function   |
| F dimensions                 |            | <b>firstcharinbox</b>          | function   |
| F direct                     |            | <b>firstdirinbox</b>           | function   |
| F found                      |            | <b>firstglyph</b>              | function   |
| F reset                      |            | <b>flatten_discretionaries</b> | function   |
| F restore                    |            | <b>flush</b>                   | function   |
| F save                       |            | <b>flush_list</b>              | function   |
| F savenode                   |            | <b>flush_node</b>              | function   |
| <b>builders</b>              | table      | <b>free</b>                    | function   |
| F buildpage_filter           |            | <b>fullhpack</b>               | function   |
| F vpack_filter               |            | <b>getattr</b>                 | function   |
| <b>check_discretionaries</b> | function   | <b>getattribute</b>            | function   |
| <b>codes</b>                 | data table | <b>getboth</b>                 | function   |
| <b>concat</b>                | function   | <b>getbox</b>                  | function   |
| <b>copy</b>                  | function   | <b>getchar</b>                 | function   |
| <b>copy_list</b>             | function   | <b>getfield</b>                | function   |
| <b>copy_node</b>             | function   | <b>getfont</b>                 | function   |
| <b>count</b>                 | function   | <b>getid</b>                   | function   |
| <b>countall</b>              | function   | <b>getleader</b>               | function   |
| <b>current_attr</b>          | function   | <b>getlist</b>                 | function   |
| <b>delete</b>                | function   | <b>getnext</b>                 | function   |
| <b>destinations</b>          | table      | <b>getprev</b>                 | function   |
| N attribute                  |            | <b>getsubtype</b>              | function   |
| T done                       |            | <b>gluecodes</b>               | data table |
| F handler                    |            | <b>gluevalues</b>              | data table |
| T stack                      |            | <b>glyphcodes</b>              | data table |
| <b>dimensionfields</b>       | data table | <b>handlers</b>                | table      |
| <b>dimensions</b>            | function   | F accessibility                |            |
| <b>dircodes</b>              | data table | F backgrounds                  |            |
| <b>directioncodes</b>        | data table | F backgroundspage              |            |
| <b>directionvalues</b>       | data table | F backgroundsvbox              |            |
| <b>dirvalues</b>             | data table | F characters                   |            |
| <b>disccodes</b>             | data table | F checkforleaks                |            |

|                                |            |                        |            |
|--------------------------------|------------|------------------------|------------|
| F checkglyphs                  |            | <b>is_display_math</b> | function   |
| F checkparcounter              |            | <b>is_node</b>         | function   |
| F cleanupbox                   |            | <b>is_nut</b>          | function   |
| F cleanuppage                  |            | <b>is_zero_glue</b>    | function   |
| F export                       |            | <b>kerncodes</b>       | data table |
| F finalizebox                  |            | <b>kertering</b>       | function   |
| F flatten                      |            | <b>keys</b>            | table      |
| F flattenline                  |            | T whatsit              |            |
| F migrate                      |            | <b>last_node</b>       | function   |
| F protectglyphs                |            | <b>leadercodes</b>     | data table |
| F stripping                    |            | <b>leftmarginwidth</b> | function   |
| F textbackgrounds              |            | <b>length</b>          | function   |
| F unprotectglyphs              |            | <b>ligaturing</b>      | function   |
| <b>has_attribute</b>           | function   | <b>linefillers</b>     | table      |
| <b>has_field</b>               | function   | D data                 |            |
| <b>has_glyph</b>               | function   | F define               |            |
| <b>hpack</b>                   | function   | F enable               |            |
| <b>hyphenating</b>             | function   | F filler               |            |
| <b>idsandsubtypes</b>          | function   | F handler              |            |
| <b>idstostring</b>             | function   | <b>lines</b>           | table      |
| <b>ignorablefields</b>         | data table | T boxed                |            |
| <b>injections</b>              | table      | F register             |            |
| F copy                         |            | F setup                |            |
| F getligaindex                 |            | F stage_one            |            |
| F getthreshold                 |            | F stage_two            |            |
| F handler                      |            | D data                 |            |
| F installgetspaceboth          |            | F finalize             |            |
| F installnewkern               |            | F number               |            |
| F isspace                      |            | N scratchbox           |            |
| F keepcounts                   |            | <b>link</b>            | function   |
| F reset                        |            | <b>linked</b>          | function   |
| F resetcounts                  |            | <b>list</b>            | function   |
| F setcursive                   |            | <b>listablefields</b>  | data table |
| F setkern                      |            | <b>listcodes</b>       | data table |
| F setligaindex                 |            | <b>listtoutf</b>       | function   |
| F setmark                      |            | <b>literalvalues</b>   | data table |
| F setmove                      |            | <b>load</b>            | function   |
| F setposition                  |            | <b>localparcodes</b>   | data table |
| F setspacekerns                |            | <b>locate</b>          | function   |
| <b>insert_after</b>            | function   | <b>margincodes</b>     | data table |
| <b>insert_before</b>           | function   | <b>marginkerncodes</b> | data table |
| <b>insert_list_after</b>       | function   | <b>markers</b>         | table      |
| <b>installattributehandler</b> | function   | F get                  |            |
| <b>is_direct</b>               | function   | <b>mathcodes</b>       | data table |

**maxboxwidth**

**migrations**

F setinserts

F setmarks

**mlist\_to\_hlist**

**new**

**noadcodes**

**noadoptions**

N axis

N exact

N left

N middle

N no\_axis

N right

N set

N unused\_1

N unused\_2

**nodecodes**

**nopts**

**nuts**

F append

F apply

F applyvisuals

F check\_discretionaries

F concat

F copy

F copy\_list

F copy\_no\_components

F copy\_node

F copy\_only

F copy\_only\_glyphs

F copy\_properties

F copyvisual

F count

F count\_components

F countall

F current\_attr

F delete

F dimensions

F dirdimensions

F effective\_glue

F end\_of\_math

F exchange

F find\_attribute

function

table

function

function

data table

table

data table

function

table

F find\_node

F first\_glyph

F firstcharacter

F firstcharinbox

F firstglyph

F flatten\_discretionaries

F flush

F flush\_list

F flush\_node

F free

F fullhpack

F get\_components

F get\_synctex\_fields

F getattr

F getattribute

F getattributelist

F getattrlist

F getboth

F getbox

F getboxglue

F getchar

F getcomponents

F getdata

F getdepth

F getdirection

F getdisc

F getdiscretionary

F getexpansion

F getfam

F getfield

F getfont

F getglue

F getglyphdata

F getheight

F getid

F getkern

F getlang

F getlanguage

F getleader

F getlist

F getnext

F getnormalizedline

F getnucleus

F getoffsets

|                     |                     |
|---------------------|---------------------|
| F getorientation    | F linked            |
| F getpenalty        | F locate            |
| F getpost           | F migrate           |
| F getpre            | F mlist_to_hlist    |
| F getprev           | F nestedtracedslide |
| F getprop           | F new               |
| F getreplace        | T pool              |
| F getruledata       | F accent            |
| F getscript         | F baselineskip      |
| F getshift          | F boundary          |
| F getsstate         | F choice            |
| F getsub            | F cleanup           |
| F getsubpre         | F delim             |
| F getsubtype        | F delimiter         |
| F getsup            | F direction         |
| F getsuppre         | F directliteral     |
| F getsurround       | F disc              |
| F gettotal          | F emptyrule         |
| F getvalue          | F fence             |
| F getwhd            | F fontkern          |
| F getwidth          | F fraction          |
| F has_attribute     | F glue              |
| F has_dimensions    | F gluespec          |
| F has_field         | F glyph             |
| F has_glyph         | F hlist             |
| F hpack             | F indentskip        |
| F hyphenating       | F italickern        |
| F insert_after      | F kern              |
| F insert_before     | F latelua           |
| F insert_list_after | F leader            |
| F is_direct         | F lefthangskip      |
| F is_display_math   | F leftmarginkern    |
| F is_node           | F leftskip          |
| F is_nut            | F lineskip          |
| F is_zero_glue      | F literal           |
| F ischar            | F mathchar          |
| F isdone            | F mathtextchar      |
| F isglyph           | F negatedglue       |
| F kerning           | F noad              |
| F last_node         | F originliteral     |
| F leftmarginwidth   | F outlinerule       |
| F length            | F pageliteral       |
| F ligaturing        | F penalty           |
| F link              | F radical           |



|                        |                      |
|------------------------|----------------------|
| F rawliteral           | F mp                 |
| F register             | F stroke             |
| F restore              | F userrule           |
| F righthangskip        | F set_attribute      |
| F rightmarginkern      | F set_components     |
| F rightskip            | F set_synctex_fields |
| F rule                 | F setattr            |
| F save                 | F setattribute       |
| F savepos              | F setattributelist   |
| F setmatrix            | F setattributes      |
| F shrink               | F setattrlist        |
| F stretch              | F setboth            |
| F subbox               | F setbox             |
| F submlist             | F setboxglue         |
| F temp                 | F setchar            |
| F usage                | F setcomponents      |
| T userids              | F setdata            |
| N margins.inline       | F setdepth           |
| N splitters.one        | F setdirection       |
| N splitters.two        | F setdisc            |
| F usernode             | F setdiscretionary   |
| F userrule             | F setexpansion       |
| F vlist                | F setfam             |
| F wordboundary         | F setfield           |
| F prepend              | F setfont            |
| F processranges        | F setglue            |
| F processwords         | F setglyphdata       |
| F protect_glyph        | F setheight          |
| F protect_glyphs       | F setkern            |
| F protrusion_skippable | F setlang            |
| F rangedimensions      | F setlanguage        |
| F rawprop              | F setleader          |
| F reference            | F setlink            |
| F rehpick              | F setlist            |
| F remove               | F setnext            |
| F repackhlist          | F setnucleus         |
| F replace              | F setoffsets         |
| F reverse              | F setorientation     |
| F rightmarginwidth     | F setparproperty     |
| T rules                | F setpenalty         |
| T ruleactions          | F setpost            |
| F box                  | F setpre             |
| F draw                 | F setprev            |
| F fill                 | F setprop            |

F setreplace  
 F setruledata  
 F setscript  
 F setshift  
 F setsplit  
 F setstate  
 F setsub  
 F setsubpre  
 F setsubtype  
 F setup  
 F setsuppre  
 F setsurround  
 F setunsetattributes  
 F setvalue  
 F setvisual  
 F setvisuals  
 F setwhd  
 F setwidth  
 F slide  
 F somepenalty  
 F somespace  
 F splitbox  
 F start\_of\_par  
 F striprange  
 F tail  
 F takeattr  
 F takebox  
 F takelist  
 F theprop  
 F tonode  
 F tonodes  
 F tonut  
 F tosequence  
 F toString  
 F tracedslide  
 F traverse  
 F traverse\_char  
 F traverse\_glyph  
 F traverse\_id  
 F traverse\_list  
 T traversers  
   F boundary  
   F char  
   F dir

F disc  
 F glue  
 F glyph  
 F hlist  
 F list  
 F next  
 F node  
 F vlist  
 F whatsit  
 T typesetters  
   F tohbox  
   F tohpack  
   F tonodes  
   F tovbox  
   F tovpack  
 F unprotect\_glyph  
 F unprotect\_glyphs  
 F unset\_attribute  
 F unsetattribute  
 F unsetattributes  
 F untracedslide  
 F usedlist  
 F uses\_font  
 F vianodes  
 F vianuts  
 F vpack  
 F write

**packlist**  
**penaltycodes**  
**plugindata**

F finalizer  
 F initializer  
 S name  
 T namespace  
   N attribute  
   D data  
   F enable  
   F handler  
   F register  
   D registered  
   D values  
 F processor

**points**  
**pool**

function  
 data table  
 table

function  
 table

|                             |            |                           |            |
|-----------------------------|------------|---------------------------|------------|
| F baselineskip              |            | <b>replace</b>            | function   |
| F cleanup                   |            | <b>report</b>             | function   |
| F directliteral             |            | <b>rightmarginwidth</b>   | function   |
| F glyph                     |            | <b>rulecodes</b>          | data table |
| F hlist                     |            | <b>rules</b>              | table      |
| F latelua                   |            | D data                    |            |
| F lineskip                  |            | F define                  |            |
| F literal                   |            | F enable                  |            |
| F originliteral             |            | F handler                 |            |
| F register                  |            | F userrule                |            |
| F restore                   |            | <b>save</b>               | function   |
| F rule                      |            | <b>serialize</b>          | function   |
| F save                      |            | <b>serializebox</b>       | function   |
| F savepos                   |            | <b>set_attribute</b>      | function   |
| F setmatrix                 |            | <b>setattr</b>            | function   |
| F special                   |            | <b>setattribute</b>       | function   |
| F usage                     |            | <b>setattributes</b>      | function   |
| F vlist                     |            | <b>setboth</b>            | function   |
| <b>prepend</b>              | function   | <b>setbox</b>             | function   |
| <b>print</b>                | function   | <b>setboxtonaturalwd</b>  | function   |
| <b>processors</b>           | table      | <b>setchar</b>            | function   |
| F contribute_filter         |            | <b>setfield</b>           | function   |
| B enabled                   |            | <b>setfont</b>            | function   |
| F hpack_filter              |            | <b>setleader</b>          | function   |
| F post_linebreak_filter     |            | <b>setlink</b>            | function   |
| F pre_linebreak_filter      |            | <b>setlist</b>            | function   |
| F tracer                    |            | <b>setnext</b>            | function   |
| <b>properties</b>           | table      | <b>setprev</b>            | function   |
| T data                      |            | <b>setunsetattributes</b> | function   |
| <b>protect_glyph</b>        | function   | <b>shifts</b>             | table      |
| <b>protect_glyphs</b>       | function   | D data                    |            |
| <b>protrusion_skippable</b> | function   | F define                  |            |
| <b>pts</b>                  | function   | F enable                  |            |
| <b>radicalcodes</b>         | data table | F handler                 |            |
| <b>rangedimensions</b>      | function   | <b>show</b>               | function   |
| <b>reference</b>            | function   | <b>showboxes</b>          | function   |
| <b>references</b>           | table      | <b>showcodes</b>          | function   |
| N attribute                 |            | <b>showlist</b>           | function   |
| T done                      |            | <b>showsimplelist</b>     | function   |
| F handler                   |            | <b>skipcodes</b>          | data table |
| T stack                     |            | <b>skipvalues</b>         | data table |
| <b>reheapack</b>            | function   | <b>slide</b>              | function   |
| <b>remove</b>               | function   | <b>snapshots</b>          | table      |
| <b>repackhlist</b>          | function   | F getsamples              |            |

|                             |            |                       |          |
|-----------------------------|------------|-----------------------|----------|
| F resetsamples              |            | <b>topoints</b>       | function |
| F takesample                |            | <b>toscaledpoints</b> | function |
| <b>somepenalty</b>          | function   | <b>tosequence</b>     | function |
| <b>somespace</b>            | function   | <b>tostring</b>       | function |
| <b>splitbox</b>             | function   | <b>totable</b>        | function |
| <b>start_of_par</b>         | function   | <b>totree</b>         | function |
| <b>stripdiscretionaries</b> | function   | <b>toutf</b>          | function |
| <b>stripping</b>            | table      | <b>tracers</b>        | table    |
| T glyphs                    |            | T characters          |          |
| F set                       |            | F collect             |          |
| <b>subtypes</b>             | data table | F equal               |          |
| <b>tail</b>                 | function   | F start               |          |
| <b>takeattr</b>             | function   | F string              |          |
| <b>takebox</b>              | function   | F unicodes            |          |
| <b>tasks</b>                | table      | T colors              |          |
| F actions                   |            | F reset               |          |
| F appendaction              |            | F set                 |          |
| F disableaction             |            | F setlist             |          |
| F disablegroup              |            | F directions          |          |
| F enableaction              |            | F fontchar            |          |
| F enablegroup               |            | T frequencies         |          |
| F freeze                    |            | F register            |          |
| F freezegroup               |            | T pool                |          |
| F new                       |            | T nodes               |          |
| F prependaction             |            | F rule                |          |
| F removeaction              |            | T nuts                |          |
| F replaceaction             |            | F rule                |          |
| F restart                   |            | F resetproperties     |          |
| F setaction                 |            | F rule                |          |
| F showactions               |            | F setlist             |          |
| F table                     |            | F setproperties       |          |
| <b>tobasepoints</b>         | function   | F start               |          |
| <b>tocentimeters</b>        | function   | T steppers            |          |
| <b>tociceros</b>            | function   | F check               |          |
| <b>todidots</b>             | function   | F codes               |          |
| <b>todimen</b>              | function   | F features            |          |
| <b>toinches</b>             | function   | F font                |          |
| <b>tomillimeters</b>        | function   | F glyphs              |          |
| <b>tonewciceros</b>         | function   | F message             |          |
| <b>tonewdidots</b>          | function   | F messages            |          |
| <b>tonode</b>               | function   | F nofsteps            |          |
| <b>tonodes</b>              | function   | F register            |          |
| <b>tonut</b>                | function   | F reset               |          |
| <b>topicas</b>              | function   | F start               |          |

|                        |          |                         |            |
|------------------------|----------|-------------------------|------------|
| F stop                 |          | <b>unprotect_glyphs</b> | function   |
| F stop                 |          | <b>unset_attribute</b>  | function   |
| T transparencies       |          | <b>unsetattribute</b>   | function   |
| F reset                |          | <b>unsetattributes</b>  | function   |
| F set                  |          | <b>usedlist</b>         | function   |
| F setlist              |          | <b>usercodes</b>        | data table |
| <b>traverse</b>        | function | <b>uses_font</b>        | function   |
| <b>traverse_char</b>   | function | <b>vianodes</b>         | function   |
| <b>traverse_glyph</b>  | function | <b>vianuts</b>          | function   |
| <b>traverse_id</b>     | function | <b>visualizebox</b>     | function   |
| <b>traverse_list</b>   | function | <b>visualizers</b>      | table      |
| <b>traversers</b>      | table    | F attribute             |            |
| F char                 |          | T attributes            |            |
| F glyph                |          | F box                   |            |
| F list                 |          | F handler               |            |
| F node                 |          | F markfonts             |            |
| <b>typesetters</b>     | table    | F register              |            |
| F hbox                 |          | F setfont               |            |
| F hpack                |          | F setlayer              |            |
| F tohbox               |          | F setruledglyph         |            |
| F tohpack              |          | F setvisual             |            |
| F tonodes              |          | <b>vpack</b>            | function   |
| F toinbox              |          | <b>whatcodes</b>        | data table |
| F tovpack              |          | <b>whatsitcodes</b>     | data table |
| F vpack                |          | <b>write</b>            | function   |
| <b>unprotect_glyph</b> | function |                         |            |

## number (context)

|                       |            |                       |          |
|-----------------------|------------|-----------------------|----------|
|                       | function   | <b>tobitstring</b>    | function |
| <b>basepoints</b>     | function   | <b>tocentimeters</b>  | function |
| <b>bytetodecimal</b>  | function   | <b>toxiceros</b>      | function |
| <b>compactfloat</b>   | function   | <b>tocontext</b>      | function |
| <b>decimaltobyte</b>  | function   | <b>todidots</b>       | function |
| <b>dimenfactors</b>   | data table | <b>todimen</b>        | function |
| <b>formatted</b>      | function   | <b>toevenhex</b>      | function |
| <b>formattedfloat</b> | function   | <b>toinches</b>       | function |
| <b>idiv</b>           | function   | <b>tomillimeters</b>  | function |
| <b>maxdimen</b>       | number     | <b>tonewciceros</b>   | function |
| <b>nopts</b>          | function   | <b>tonewdidots</b>    | function |
| <b>percent</b>        | function   | <b>tonumberf</b>      | function |
| <b>points</b>         | function   | <b>tonumberg</b>      | function |
| <b>pts</b>            | function   | <b>topicas</b>        | function |
| <b>signed</b>         | function   | <b>topoints</b>       | function |
| <b>sparseexponent</b> | function   | <b>toscaled</b>       | function |
| <b>splitdimen</b>     | function   | <b>toscaledpoints</b> | function |
| <b>tol6dot16</b>      | function   | <b>valid</b>          | function |
| <b>tobasepoints</b>   | function   |                       |          |

## objects (context)

|                   |          |                  |          |
|-------------------|----------|------------------|----------|
| <b>data</b>       | table    | <b>page</b>      | function |
| <b>dimensions</b> | function | <b>reference</b> | function |
| <b>found</b>      | function | <b>register</b>  | function |
| <b>n</b>          | number   | <b>restore</b>   | function |

# optional (context)

## **curl** table

F escape  
F fetch  
F getversion  
F initialize  
F unescape

## **ghostscript** table

F execute  
F initialize

## **graphicsmagick** table

F execute  
F initialize

## **kpse** table

F expand\_braces  
F expand\_path  
F expand\_var  
F find\_file  
F find\_files  
F get\_file\_types  
F initialize  
F readable\_file  
F set\_program\_name  
F var\_value

## **loaded** table

## **mujs** table

F dofile  
F execute  
F initialize

F reset  
F setclosefile  
F setconsole  
F setfindfile  
F setopenfile  
F setreadfile  
F setseekfile

## **mysql** table

F close  
F execute  
F getmessage  
F initialize  
F open

## **postgress** table

F close  
F execute  
F getmessage  
F initialize  
F open

## **sqlite** table

F close  
F execute  
F getmessage  
F initialize  
F open

## **zint** table

F execute  
F initialize



## os (basic lua)

|                           |                     |
|---------------------------|---------------------|
| <code>__getenv__</code>   | function            |
| <code>__setenv__</code>   | function            |
| <code>binsuffix</code>    | string              |
| <code>binsuffixes</code>  | table               |
| <code>clock</code>        | function            |
| <code>converttime</code>  | function            |
| <code>date</code>         | overloaded function |
| <code>difftime</code>     | function            |
| <code>enableansi</code>   | function            |
| <code>env</code>          | data table          |
| <code>execute</code>      | overloaded function |
| <code>exit</code>         | overloaded function |
| <code>fulltime</code>     | function            |
| <code>getcodepage</code>  | function            |
| <code>getenv</code>       | overloaded function |
| <code>gettimeofday</code> | function            |
| <code>isleapyear</code>   | function            |
| <code>launch</code>       | function            |
| <code>libsuffix</code>    | string              |
| <code>localtime</code>    | function            |
| <code>name</code>         | string              |
| <code>newline</code>      | string              |
| <code>nofdays</code>      | function            |
| <code>now</code>          | function            |
| <code>pipeto</code>       | function            |
| <code>platform</code>     | string              |
| <code>remove</code>       | overloaded function |

|                            |                     |
|----------------------------|---------------------|
| <code>rename</code>        | overloaded function |
| <code>resolvers</code>     | table               |
| <code>  F bits</code>      |                     |
| <code>resultof</code>      | function            |
| <code>runtime</code>       | function            |
| <code>selfarg</code>       | table               |
| <code>selfbase</code>      | string              |
| <code>selfbin</code>       | string              |
| <code>selfcore</code>      | string              |
| <code>selfdir</code>       | string              |
| <code>selfname</code>      | string              |
| <code>selfpath</code>      | string              |
| <code>setenv</code>        | overloaded function |
| <code>setexitcode</code>   | function            |
| <code>setlocale</code>     | overloaded function |
| <code>sleep</code>         | function            |
| <code>time</code>          | function            |
| <code>timezone</code>      | function            |
| <code>tmpname</code>       | function            |
| <code>today</code>         | function            |
| <code>type</code>          | string              |
| <code>uname</code>         | function            |
| <code>uuid</code>          | function            |
| <code>validdatetime</code> | function            |
| <code>weekday</code>       | function            |
| <code>where</code>         | function            |
| <code>which</code>         | function            |

## package (basic lua)

|                      |          |                    |          |
|----------------------|----------|--------------------|----------|
| <b>config</b>        | string   | <b>loadlib</b>     | function |
| <b>cpath</b>         | string   | <b>luapaths</b>    | function |
| <b>extralibpath</b>  | function | <b>path</b>        | string   |
| <b>extralibpaths</b> | function | <b>poplibpath</b>  | function |
| <b>extralupath</b>   | function | <b>popluapath</b>  | function |
| <b>extralupaths</b>  | function | <b>preload</b>     | table    |
| <b>helpers</b>       | table    | <b>pushlibpath</b> | function |
| <b>libpaths</b>      | function | <b>pushluapath</b> | function |
| <b>loaded</b>        | table    | <b>searchers</b>   | table    |
| <b>loaders</b>       | table    | <b>searchpath</b>  | function |

# pagebuilders (context)

## **columnsets** table

F add  
F block  
F check  
F currentcolumn  
F define  
F finishflush  
F flushareas  
F flushcolumn  
F flushrest  
F goto  
F noto  
F prepareflush  
F put  
F registerarea  
F reset  
F setarea

F sethsize  
F sethspace  
F setlines  
F setproperties  
F setstart  
F setvsize

## **injections** table

F flushafter  
F flushbefore  
F save

## **mixedcolumns** table

F cleanup  
F finalize  
F getlist  
F getrest  
F getsplit  
F setsplit

## pdf (basic tex)

`immediateobj` function

## pdf (extra tex)

|                          |            |                        |            |
|--------------------------|------------|------------------------|------------|
| <b>arraytotable</b>      | function   | <b>getnumber</b>       | function   |
| <b>close</b>             | function   | <b>getpage</b>         | function   |
| <b>closestream</b>       | function   | <b>getpages</b>        | function   |
| <b>dictionarytotable</b> | function   | <b>getsize</b>         | function   |
| <b>encryptioncodes</b>   | data table | <b>getstatus</b>       | function   |
| <b>getarray</b>          | function   | <b>getstream</b>       | function   |
| <b>getboolean</b>        | function   | <b>getstring</b>       | function   |
| <b>getbox</b>            | function   | <b>gettrailer</b>      | function   |
| <b>getcatalag</b>        | function   | <b>getversion</b>      | function   |
| <b>getdictionary</b>     | function   | <b>new</b>             | function   |
| <b>getfromarray</b>      | function   | <b>objectcodes</b>     | data table |
| <b>getfromdictionary</b> | function   | <b>open</b>            | function   |
| <b>getfromreference</b>  | function   | <b>openfile</b>        | function   |
| <b>getfromstream</b>     | function   | <b>openstream</b>      | function   |
| <b>getinfo</b>           | function   | <b>pages totable</b>   | function   |
| <b>getinteger</b>        | function   | <b>readfromstream</b>  | function   |
| <b>getmemoryusage</b>    | function   | <b>readwholestream</b> | function   |
| <b>getname</b>           | function   | <b>type</b>            | function   |
| <b>getnofobjects</b>     | function   | <b>unencrypt</b>       | function   |
| <b>getnofpages</b>       | function   |                        |            |

# physics (context)

**units** table

F registerunit

D tables

## pngdecode (extra tex)

**applyfilter** function

**expand** function

**interlace** function

**splitmask** function

**tocmyk** function

# publications (context)

|                         |            |                             |          |
|-------------------------|------------|-----------------------------|----------|
| <b>addtexentry</b>      | function   | <b>converttoxml</b>         | function |
| <b>analyze</b>          | function   | <b>currentspecification</b> | table    |
| <b>anywhere</b>         | function   | S author                    |          |
| <b>authorcache</b>      | data table | T categories                |          |
| <b>authorcollapsers</b> | data table | T article                   |          |
| <b>authorhashers</b>    | table      | S category                  |          |
| F invertedshort         |            | T extra                     |          |
| F normal                |            | T fields                    |          |
| F normalinverted        |            | S author                    |          |
| F normalshort           |            | S editor                    |          |
| F sequential            |            | S journal                   |          |
| F sequentialshort       |            | S keywords                  |          |
| F short                 |            | S note                      |          |
| <b>authormap</b>        | data table | S number                    |          |
| <b>authortoregister</b> | function   | S pages                     |          |
| <b>casters</b>          | table      | S title                     |          |
| F author                |            | S volume                    |          |
| F keyword               |            | S year                      |          |
| F pagenumber            |            | T optional                  |          |
| F range                 |            | T required                  |          |
| <b>checkeddataset</b>   | function   | T sets                      |          |
| <b>citevariants</b>     | table      | T author                    |          |
| F author                |            | T virtual                   |          |
| F authornum             |            | T book                      |          |
| F authoryear            |            | S category                  |          |
| F authoryears           |            | T extra                     |          |
| F category              |            | T fields                    |          |
| F default               |            | S address                   |          |
| F entry                 |            | S author                    |          |
| F index                 |            | S edition                   |          |
| F keywords              |            | S editor                    |          |
| F num                   |            | S keywords                  |          |
| F page                  |            | S note                      |          |
| F short                 |            | S number                    |          |
| F tag                   |            | S publisher                 |          |
| F textnum               |            | S subtitle                  |          |
| F year                  |            | S title                     |          |
| <b>collected</b>        | data table | S volume                    |          |
| <b>components</b>       | table      | S year                      |          |
| F author                |            | T optional                  |          |
| <b>concatstate</b>      | function   | T required                  |          |



|                |                        |            |
|----------------|------------------------|------------|
| T sets         | S pages                |            |
| T author       | S volume               |            |
| T editionset   | S version              |            |
| T virtual      | D virtual              |            |
| T demo-a       | T virtualfields        |            |
| S category     | B authornum            |            |
| T extra        | B authoryear           |            |
| T fields       | B authoryears          |            |
| S author       | B num                  |            |
| S institution  | B suffix               |            |
| S organization | <b>datasets</b>        | table      |
| S subtitle     | <b>detailed</b>        | table      |
| S title        | <b>endnotes_to_btx</b> | function   |
| S year         | <b>enhancer</b>        | table      |
| T optional     | S arguments            |            |
| T required     | T askip                |            |
| T sets         | B dirty                |            |
| T author       | T gskip                |            |
| T virtual      | T kind                 |            |
| T demo-b       | T list                 |            |
| S category     | T system               |            |
| T extra        | T order                |            |
| T fields       | N steps                |            |
| S author       | <b>enhancers</b>       | table      |
| S institution  | F details              |            |
| S organization | F order                |            |
| S subtitle     | F suffixes             |            |
| S title        | <b>finder</b>          | function   |
| S year         | <b>firstofrange</b>    | function   |
| T optional     | <b>found</b>           | function   |
| T required     | <b>get</b>             | function   |
| T sets         | <b>getcasted</b>       | function   |
| T authors      | <b>getdetail</b>       | function   |
| T virtual      | <b>getdirect</b>       | function   |
| S comment      | <b>getfaster</b>       | function   |
| S copyright    | <b>getfield</b>        | function   |
| T fields       | <b>getfuzzy</b>        | function   |
| S name         | <b>getindex</b>        | function   |
| T types        | <b>inspectors</b>      | data table |
| S author       | <b>journals</b>        | table      |
| S editor       | F abbreviated          |            |
| S keywords     | F add                  |            |
| S number       | F expanded             |            |
| S page         | F load                 |            |

|                           |          |                            |          |
|---------------------------|----------|----------------------------|----------|
| F save                    |          | F lua                      |          |
| <b>lastofrange</b>        | function | F refman                   |          |
| <b>lists</b>              | table    | F registercleaner          |          |
| F collectentries          |          | F xml                      |          |
| F combiinlist             |          | <b>loadreplacementfile</b> | function |
| F fetchentries            |          | <b>new</b>                 | function |
| F filterall               |          | <b>okay</b>                | function |
| F flushcombi              |          | <b>oneorange</b>           | function |
| F flushentry              |          | <b>parenttag</b>           | function |
| F flushtag                |          | <b>permitted</b>           | function |
| T methods                 |          | <b>prerollcmdstring</b>    | function |
| F dataset                 |          | <b>refman_to_btx</b>       | function |
| F force                   |          | <b>resolvedname</b>        | function |
| F global                  |          | <b>save</b>                | function |
| F local                   |          | <b>savers</b>              | table    |
| F nofregistered           |          | F bib                      |          |
| F prepareentries          |          | F lua                      |          |
| F register                |          | F xml                      |          |
| F sameasprevious          |          | <b>search</b>              | function |
| T sorters                 |          | <b>setcategory</b>         | function |
| F cite                    |          | <b>setspecification</b>    | function |
| F dataset                 |          | <b>singularorplural</b>    | function |
| F default                 |          | <b>sortedentries</b>       | function |
| F index                   |          | <b>sortmethods</b>         | table    |
| F list                    |          | T authoryear               |          |
| F reference               |          | T sequence                 |          |
| F short                   |          | <b>specifications</b>      | table    |
| F used                    |          | T default                  |          |
| F uservariable            |          | S author                   |          |
| <b>listvariants</b>       | table    | S comment                  |          |
| F default                 |          | S copyright                |          |
| F index                   |          | S name                     |          |
| F num                     |          | S version                  |          |
| F short                   |          | D virtual                  |          |
| F tag                     |          | <b>splitauthor</b>         | function |
| <b>load</b>               | function | <b>splitoneauthor</b>      | function |
| <b>loadbibdata</b>        | function | <b>statistics</b>          | table    |
| <b>loaddefinitionfile</b> | function | N nofbytes                 |          |
| <b>loaders</b>            | table    | N nofdatasets              |          |
| F bbl                     |          | N nofdefinitions           |          |
| F bib                     |          | N nofshortcuts             |          |
| F buffer                  |          | <b>tables</b>              | table    |
| F endnote                 |          | D implicits                |          |
| F json                    |          | D origins                  |          |

|                           |          |                    |          |
|---------------------------|----------|--------------------|----------|
| D privates                |          | F showtables       |          |
| D sets                    |          | F showvariants     |          |
| D specials                |          | <b>typesetters</b> | table    |
| D types                   |          | F author           |          |
| D virtuals                |          | F string           |          |
| <b>tags</b>               | function | <b>usedataset</b>  | function |
| <b>tracers</b>            | table    | <b>usedentries</b> | function |
| F showdatasetauthors      |          | <b>writers</b>     | table    |
| F showdatasetcompleteness |          | F author           |          |
| F showdatasetfields       |          | F keyword          |          |
| F showentry               |          | F pagenumber       |          |
| F showfields              |          | F range            |          |
| F showhashedauthors       |          |                    |          |

## regimes (context)

|                    |            |
|--------------------|------------|
| <b>backmapping</b> | data table |
| <b>cleanup</b>     | function   |
| <b>disable</b>     | function   |
| <b>enable</b>      | function   |
| <b>fromregime</b>  | function   |
| <b>list</b>        | function   |

|                  |            |
|------------------|------------|
| <b>mapping</b>   | data table |
| <b>pop</b>       | function   |
| <b>process</b>   | function   |
| <b>push</b>      | function   |
| <b>toregime</b>  | function   |
| <b>translate</b> | function   |

# resolvers (context)

|                                     |            |                                |            |
|-------------------------------------|------------|--------------------------------|------------|
| <b>allprefixes</b>                  | function   | <b>findtexfile</b>             | function   |
| <b>appendhash</b>                   | function   | <b>findwildcardfile</b>        | function   |
| <b>automount</b>                    | function   | <b>findwildcardfiles</b>       | function   |
| <b>booleanvariable</b>              | function   | <b>formatofsuffix</b>          | function   |
| <b>cacheversion</b>                 | string     | <b>formatofvariable</b>        | function   |
| <b>checkedvariable</b>              | function   | <b>formats</b>                 | data table |
| <b>cleanedpathlist</b>              | function   | <b>foundintree</b>             | function   |
| <b>cleanpath</b>                    | function   | <b>foundintrees</b>            | function   |
| <b>cleanpathlist</b>                | function   | <b>generators</b>              | data table |
| <b>concatinators</b>                | data table | <b>get_from_content</b>        | function   |
| <b>configbanner</b>                 | string     | <b>getenv</b>                  | function   |
| <b>configurationfiles</b>           | function   | <b>getextrapaths</b>           | function   |
| <b>dangerous</b>                    | data table | <b>getfilehashes</b>           | function   |
| <b>datastate</b>                    | function   | <b>gethashes</b>               | function   |
| <b>defaultsuffixes</b>              | table      | <b>getownpath</b>              | function   |
| <b>dirstatus</b>                    | function   | <b>getreadfilename</b>         | function   |
| <b>dowithfilesandreport</b>         | function   | <b>hashers</b>                 | data table |
| <b>dowithfilesintree</b>            | function   | <b>homedir</b>                 | string     |
| <b>dowithpath</b>                   | function   | <b>initialized</b>             | function   |
| <b>dowithvariable</b>               | function   | <b>installinputfilehandler</b> | function   |
| <b>executers</b>                    | table      | <b>installinputlinehandler</b> | function   |
| <b>expandbraces</b>                 | function   | <b>jobpath</b>                 | function   |
| <b>expandedpathfromlist</b>         | function   | <b>jobs</b>                    | table      |
| <b>expandedpathlist</b>             | function   | F currentcomponent             |            |
| <b>expandedpathlistfromvariable</b> | function   | F currentenvironment           |            |
| <b>expandpath</b>                   | function   | F currentproduct               |            |
| <b>expandpathfromvariable</b>       | function   | F currentproject               |            |
| <b>expansion</b>                    | function   | F justacomponent               |            |
| <b>extendtexmfvariable</b>          | function   | D processors                   |            |
| <b>filtered_from_content</b>        | function   | F productcomponent             |            |
| <b>find_file</b>                    | function   | F usefile                      |            |
| <b>find_files</b>                   | function   | <b>joinpath</b>                | function   |
| <b>findbinfile</b>                  | function   | <b>knownvariables</b>          | function   |
| <b>findctxfile</b>                  | function   | <b>libraries</b>               | table      |
| <b>finders</b>                      | data table | F optionalloaded               |            |
| <b>findfile</b>                     | function   | F validoptional                |            |
| <b>findfiles</b>                    | function   | <b>load</b>                    | function   |
| <b>findgivenfile</b>                | function   | <b>loadbinfile</b>             | function   |
| <b>findgivenfiles</b>               | function   | <b>loaders</b>                 | data table |
| <b>findlib</b>                      | function   | <b>loadlua lib</b>             | function   |
| <b>findpath</b>                     | function   | <b>loadtexfile</b>             | function   |

|                          |            |                               |            |
|--------------------------|------------|-------------------------------|------------|
| <b>loadtime</b>          | function   | <b>resetmemstream</b>         | function   |
| <b>locateformat</b>      | function   | <b>resetresolve</b>           | function   |
| <b>locators</b>          | data table | <b>resolve</b>                | function   |
| <b>luacnffallback</b>    | string     | <b>savers</b>                 | data table |
| <b>luacnfname</b>        | string     | <b>scandata</b>               | function   |
| <b>luacnfspec</b>        | string     | <b>scanfiles</b>              | function   |
| <b>luacnfstate</b>       | string     | <b>schemes</b>                | table      |
| <b>macros</b>            | table      | T cleaners                    |            |
| F convertfile            |            | F md5                         |            |
| F decodecomment          |            | F none                        |            |
| F enablecomment          |            | F strip                       |            |
| F encodecomment          |            | F cleanname                   |            |
| F preprocessed           |            | F fetchstring                 |            |
| F processmk              |            | F fetchtable                  |            |
| F processmklx            |            | F install                     |            |
| F processmkvi            |            | <b>setdynamic</b>             | function   |
| F version                |            | <b>setenv</b>                 | function   |
| <b>maxreadlevel</b>      | number     | <b>setmemstream</b>           | function   |
| <b>methodhandler</b>     | function   | <b>showpath</b>               | function   |
| <b>openbinfile</b>       | function   | <b>simplescanfiles</b>        | function   |
| <b>openers</b>           | data table | <b>splitconfigurationpath</b> | function   |
| <b>openfile</b>          | function   | <b>splitexpansions</b>        | function   |
| <b>opentexfile</b>       | function   | <b>splitmethod</b>            | function   |
| <b>ownpath</b>           | string     | <b>splitpath</b>              | function   |
| <b>popextrapath</b>      | function   | <b>stackpath</b>              | function   |
| <b>popinputname</b>      | function   | <b>starttiming</b>            | function   |
| <b>poppath</b>           | function   | <b>stoptiming</b>             | function   |
| <b>prefixes</b>          | data table | <b>suffixes</b>               | data table |
| <b>prependhash</b>       | function   | <b>suffixmap</b>              | data table |
| <b>pushextrapath</b>     | function   | <b>suffixofformat</b>         | function   |
| <b>pushinputname</b>     | function   | <b>texdatablob</b>            | function   |
| <b>pushpath</b>          | function   | <b>toppath</b>                | function   |
| <b>registerextrapath</b> | function   | <b>unexpandedpath</b>         | function   |
| <b>registerfile</b>      | function   | <b>unexpandedpathlist</b>     | function   |
| <b>registerfilehash</b>  | function   | <b>unresolve</b>              | function   |
| <b>registerintrees</b>   | function   | <b>updaterelations</b>        | function   |
| <b>registermethod</b>    | function   | <b>updatescript</b>           | function   |
| <b>registerzipfile</b>   | function   | <b>uselibrary</b>             | function   |
| <b>relations</b>         | data table | <b>usertypes</b>              | data table |
| <b>renew</b>             | function   | <b>usezipfile</b>             | function   |
| <b>renewcache</b>        | function   | <b>validatedpath</b>          | function   |
| <b>repath</b>            | function   | <b>variable</b>               | function   |
| <b>reset</b>             | function   | <b>variableofformat</b>       | function   |
| <b>resetextrapaths</b>   | function   |                               |            |

|                                 |          |
|---------------------------------|----------|
| <b>variableofformatorsuffix</b> | function |
| <b>wildcardpattern</b>          | function |

## sandbox (context)

|                         |          |
|-------------------------|----------|
| <b>disablelibraries</b> | function |
| <b>disablerunners</b>   | function |
| <b>enable</b>           | function |
| <b>filehandlerone</b>   | function |
| <b>filehandlertwo</b>   | function |
| <b>finalizer</b>        | function |
| <b>getrunner</b>        | function |
| <b>initializer</b>      | function |
| <b>iohandler</b>        | function |
| <b>logcalls</b>         | function |
| <b>logfiles</b>         | function |
| <b>original</b>         | function |
| <b>overload</b>         | function |

|                          |          |
|--------------------------|----------|
| <b>possiblepath</b>      | function |
| <b>redefine</b>          | function |
| <b>register</b>          | function |
| <b>registerbinary</b>    | function |
| <b>registerlibrary</b>   | function |
| <b>registerroot</b>      | function |
| <b>registerrunner</b>    | function |
| <b>report</b>            | function |
| <b>setfilenamelogger</b> | function |
| <b>setlogger</b>         | function |
| <b>setreporter</b>       | function |
| <b>settrace</b>          | function |
| <b>validfilename</b>     | function |



# scripts (context)

**autofontfeature** table

F disable  
F enable  
F handler

**colors** data table

**decomposehangul** function

**defaults** table

N inter\_char\_half\_shrink\_factor  
N inter\_char\_half\_stretch\_factor  
N inter\_char\_hangul\_penalty  
N inter\_char\_quarter\_shrink\_factor  
N inter\_char\_quarter\_stretch\_factor  
N inter\_char\_shrink\_factor  
N inter\_char\_stretch\_factor  
N inter\_word\_stretch\_factor

**getdata** function

**getinjector** function

**getsplitter** function

**getstatus** function

**handlers** data table

**hash** table

**injectors** data table

**inserters** table

F nobreakspace\_after

F nobreakspace\_before

F space\_after

F space\_before

F zerowidthspace\_after

F zerowidthspace\_before

**installdataset** function

**installmethod** function

**numbertodataset** data table

**numbertohandler** data table

**reset** function

**set** function

**setstatus** function

**splitters** data table

## set (context)

**contains** function

**create** function

**tolist** function

**tonumber** function

**totable** function

## sha2 (extra lua)

|                  |          |
|------------------|----------|
| <b>HASH256</b>   | function |
| <b>HASH384</b>   | function |
| <b>HASH512</b>   | function |
| <b>HEX256</b>    | function |
| <b>HEX384</b>    | function |
| <b>HEX512</b>    | function |
| <b>digest256</b> | function |
| <b>digest384</b> | function |
| <b>digest512</b> | function |

|                |          |
|----------------|----------|
| <b>hash256</b> | function |
| <b>hash384</b> | function |
| <b>hash512</b> | function |
| <b>hex256</b>  | function |
| <b>hex384</b>  | function |
| <b>hex512</b>  | function |
| <b>sum256</b>  | function |
| <b>sum384</b>  | function |
| <b>sum512</b>  | function |

## sio (extra lua)

**read2dot14** function  
**readbytes** function  
**readbytetable** function  
**readcardinal1** function  
**readcardinal1le** function  
**readcardinal2** function  
**readcardinal2le** function  
**readcardinal3** function  
**readcardinal3le** function  
**readcardinal4** function  
**readcardinal4le** function  
**readcardinaltable** function

**readfixed2** function  
**readfixed4** function  
**readinteger1** function  
**readinteger1le** function  
**readinteger2** function  
**readinteger2le** function  
**readinteger3** function  
**readinteger3le** function  
**readinteger4** function  
**readinteger4le** function  
**readintegertable** function

# socket (extra lua)

|                       |          |                             |
|-----------------------|----------|-----------------------------|
| <b>BLOCKSIZE</b>      | number   | S content-md5               |
| <b>_DATAGRAMSIZE</b>  | number   | S content-range             |
| <b>_SETSIZE</b>       | number   | S content-transfer-encoding |
| <b>_SOCKETINVALID</b> | number   | S content-type              |
| <b>bind</b>           | function | S cookie                    |
| <b>choose</b>         | function | S date                      |
| <b>connect</b>        | function | S diagnostic-code           |
| <b>connect4</b>       | function | S dsn-gateway               |
| <b>connect6</b>       | function | S etag                      |
| <b>dns</b>            | table    | S expect                    |
| F getaddrinfo         |          | S expires                   |
| F gethostname         |          | S final-log-id              |
| F getnameinfo         |          | S final-recipient           |
| F tohostname          |          | S from                      |
| F toip                |          | S host                      |
| <b>gettime</b>        | function | S if-match                  |
| <b>headers</b>        | table    | S if-modified-since         |
| T canonic             |          | S if-none-match             |
| S accept              |          | S if-range                  |
| S accept-charset      |          | S if-unmodified-since       |
| S accept-encoding     |          | S in-reply-to               |
| S accept-language     |          | S keywords                  |
| S accept-ranges       |          | S last-attempt-date         |
| S action              |          | S last-modified             |
| S age                 |          | S location                  |
| S allow               |          | S max-forwards              |
| S alternate-recipient |          | S message-id                |
| S arrival-date        |          | S mime-version              |
| S authorization       |          | S original-envelope-id      |
| S bcc                 |          | S original-recipient        |
| S cache-control       |          | S pragma                    |
| S cc                  |          | S proxy-authenticate        |
| S comments            |          | S proxy-authorization       |
| S connection          |          | S range                     |
| S content-description |          | S received                  |
| S content-disposition |          | S received-from-mta         |
| S content-encoding    |          | S references                |
| S content-id          |          | S referer                   |
| S content-language    |          | S remote-mta                |
| S content-length      |          | S reply-to                  |
| S content-location    |          | S reporting-mta             |

S resent-bcc  
 S resent-cc  
 S resent-date  
 S resent-from  
 S resent-message-id  
 S resent-reply-to  
 S resent-sender  
 S resent-to  
 S retry-after  
 S return-path  
 S sender  
 S server  
 S smtp-remote-recipient  
 S status  
 S subject  
 S te  
 S to  
 S trailer  
 S transfer-encoding  
 S upgrade  
 S user-agent  
 S vary  
 S via  
 S warning  
 S will-retry-until  
 S www-authenticate  
 S x-mailer  
 F lower  
 F normalize  
**http**                      table  
 N TIMEOUT  
 S USERAGENT  
 F genericform  
 F open  
 F request  
**newtry**                      function

**protect**                      function  
**report**                      function  
**select**                      function  
**sink**                      function  
**sinkt**                      table  
 F close-when-done  
 F default  
 F http-chunked  
 F keep-open  
**skip**                      function  
**sleep**                      function  
**source**                      function  
**sourcet**                      table  
 F by-length  
 F default  
 F http-chunked  
 F until-closed  
**tcp**                      function  
**tcp4**                      function  
**tcp6**                      function  
**tp**                      table  
 N TIMEOUT  
 F connect  
**try**                      function  
**udp**                      function  
**udp4**                      function  
**udp6**                      function  
**url**                      table  
 F absolute  
 F build  
 F build\_path  
 F escape  
 F parse  
 F parse\_path  
 F unescape

# sorters (context)

|                     |          |
|---------------------|----------|
| <b>basicsorter</b>  | function |
| <b>comparers</b>    | table    |
| F basic             |          |
| <b>constants</b>    | table    |
| S defaultdigits     |          |
| S defaultlanguage   |          |
| S defaultmethod     |          |
| N digitmaximum      |          |
| N digitoffset       |          |
| N ignoredoffset     |          |
| N replacementoffset |          |
| T validmethods      |          |
| B ch                |          |
| B mc                |          |
| B mm                |          |
| B pc                |          |

|                        |            |
|------------------------|------------|
| B pm                   |            |
| B uc                   |            |
| B zc                   |            |
| B zm                   |            |
| <b>definitions</b>     | data table |
| <b>firstofsplit</b>    | function   |
| <b>packch</b>          | function   |
| <b>packuc</b>          | function   |
| <b>replacementlist</b> | function   |
| <b>setlanguage</b>     | function   |
| <b>sort</b>            | function   |
| <b>splitters</b>       | table      |
| F utf                  |            |
| <b>strip</b>           | function   |
| <b>tracers</b>         | data table |
| <b>update</b>          | function   |

## statistics (context)

|                       |          |
|-----------------------|----------|
| <b>benchmarktimer</b> | function |
| <b>callbacks</b>      | function |
| <b>checkfmtstatus</b> | function |
| <b>currenttime</b>    | function |
| <b>elapsed</b>        | function |
| <b>elapsedindeed</b>  | function |
| <b>elapsedseconds</b> | function |
| <b>elapsedtime</b>    | function |
| <b>enable</b>         | boolean  |
| <b>formatruntime</b>  | function |
| <b>hastiming</b>      | function |
| <b>memused</b>        | function |

|                      |          |
|----------------------|----------|
| <b>register</b>      | function |
| <b>resettiming</b>   | function |
| <b>runtime</b>       | function |
| <b>savefmtstatus</b> | function |
| <b>show</b>          | function |
| <b>showusage</b>     | function |
| <b>starttiming</b>   | function |
| <b>stoptiming</b>    | function |
| <b>threshold</b>     | number   |
| <b>timed</b>         | function |
| <b>tracefunction</b> | function |



## status (basic tex)

|                              |          |
|------------------------------|----------|
| <b>getbufferstate</b>        | function |
| <b>getcallbackstate</b>      | function |
| <b>getconstants</b>          | function |
| <b>geterrorlinestate</b>     | function |
| <b>geterrorstate</b>         | function |
| <b>getexpandstate</b>        | function |
| <b>getfilestate</b>          | function |
| <b>gethalferrorlinestate</b> | function |
| <b>gethashstate</b>          | function |
| <b>getinputstate</b>         | function |
| <b>getluastate</b>           | function |
| <b>getneststate</b>          | function |

|                          |          |
|--------------------------|----------|
| <b>getnodestate</b>      | function |
| <b>getparameterstate</b> | function |
| <b>getpoolstate</b>      | function |
| <b>getreadstate</b>      | function |
| <b>getsavestate</b>      | function |
| <b>gettexstate</b>       | function |
| <b>gettokenstate</b>     | function |
| <b>getwarningstate</b>   | function |
| <b>iocodes</b>           | table    |
| <b>list</b>              | function |
| <b>resetmessages</b>     | function |

## storage (context)

|                   |          |                        |            |
|-------------------|----------|------------------------|------------|
| <b>allocate</b>   | function | <b>noftables</b>       | number     |
| <b>data</b>       | table    | <b>register</b>        | function   |
| <b>mark</b>       | function | <b>shared</b>          | data table |
| <b>marked</b>     | function | <b>storedfunctions</b> | data table |
| <b>max</b>        | number   | <b>strip</b>           | boolean    |
| <b>min</b>        | number   | <b>tofmodules</b>      | number     |
| <b>nofmodules</b> | number   | <b>toftables</b>       | number     |

## streams (context)

|                   |          |
|-------------------|----------|
| <b>collect</b>    | function |
| <b>disable</b>    | function |
| <b>enable</b>     | function |
| <b>flush</b>      | function |
| <b>initialize</b> | function |

|                    |          |
|--------------------|----------|
| <b>push</b>        | function |
| <b>start</b>       | function |
| <b>stop</b>        | function |
| <b>synchronize</b> | function |

## string (basic lua)

|                       |          |                                  |          |
|-----------------------|----------|----------------------------------|----------|
| <b>autodouble</b>     | function | <b>nspace</b>                    | table    |
| <b>autosingle</b>     | function | <b>optionalquoted</b>            | function |
| <b>booleanstring</b>  | function | <b>pack</b>                      | function |
| <b>byte</b>           | function | <b>packsize</b>                  | function |
| <b>bytepairs</b>      | function | <b>quote</b>                     | function |
| <b>bytes</b>          | function | <b>quoted</b>                    | function |
| <b>bytetable</b>      | function | <b>rep</b>                       | function |
| <b>char</b>           | function | <b>replacenewlines</b>           | function |
| <b>characterpairs</b> | function | <b>reverse</b>                   | function |
| <b>characters</b>     | function | <b>split</b>                     | function |
| <b>checkedsplit</b>   | function | <b>splitlines</b>                | function |
| <b>collapsespaces</b> | function | <b>splitup</b>                   | function |
| <b>containsws</b>     | function | <b>strip</b>                     | function |
| <b>count</b>          | function | <b>sub</b>                       | function |
| <b>dawson</b>         | function | <b>tformat</b>                   | function |
| <b>dump</b>           | function | <b>toHEX</b>                     | function |
| <b>erf</b>            | function | <b>toboollean</b>                | function |
| <b>erfc</b>           | function | <b>tobytes</b>                   | function |
| <b>erfcx</b>          | function | <b>tocontext</b>                 | function |
| <b>erfi</b>           | function | <b>todec</b>                     | function |
| <b>escapedpattern</b> | function | <b>todimen</b>                   | function |
| <b>escapedquotes</b>  | function | <b>tohex</b>                     | function |
| <b>explode</b>        | function | <b>tonodes</b>                   | function |
| <b>f6</b>             | function | <b>topattern</b>                 | function |
| <b>find</b>           | function | <b>totable</b>                   | function |
| <b>format</b>         | function | <b>tounicode16</b>               | function |
| <b>formatter</b>      | function | <b>toutf</b>                     | function |
| <b>formatters</b>     | function | <b>toutf32</b>                   | function |
| <b>fullstrip</b>      | function | <b>toutf8</b>                    | function |
| <b>gmatch</b>         | function | <b>tracedchar</b>                | function |
| <b>gsub</b>           | function | <b>tracedchars</b>               | table    |
| <b>is_boolean</b>     | function | <b>unpack</b>                    | function |
| <b>is_empty</b>       | function | <b>unquote</b>                   | function |
| <b>itself</b>         | function | <b>unquoted</b>                  | function |
| <b>len</b>            | function | <b>upper</b>                     | function |
| <b>limit</b>          | function | <b>utfcharacter</b>              | function |
| <b>linetable</b>      | function | <b>utfcharacters</b>             | function |
| <b>longtostring</b>   | function | <b>utfcharacter</b> <b>table</b> | function |
| <b>lower</b>          | function | <b>utflength</b>                 | function |
| <b>match</b>          | function | <b>utfpadd</b>                   | function |
| <b>nspace</b>         | function | <b>utfpadding</b>                | function |

|                      |          |                   |          |
|----------------------|----------|-------------------|----------|
| <b>utfvalue</b>      | function | <b>valid</b>      | function |
| <b>utfvalues</b>     | function | <b>voigt</b>      | function |
| <b>utfvaluetable</b> | function | <b>voigt_hwhm</b> | function |

# structures (context)

|                   |          |                                      |
|-------------------|----------|--------------------------------------|
| <b>atlocation</b> | function | F next                               |
| <b>blocks</b>     | table    | F prev                               |
| D collected       |          | F previous                           |
| F define          |          | F raw                                |
| F print           |          | F record                             |
| F save            |          | F reset                              |
| F select          |          | F restart                            |
| F setstate        |          | F restore                            |
| D states          |          | F save                               |
| D tobesaved       |          | F set                                |
| F uservariable    |          | F setlevel                           |
| <b>bookmarks</b>  | table    | F setoffset                          |
| T extras          |          | F setown                             |
| F get             |          | F setstate                           |
| F mergesections   |          | F setvalue                           |
| F register        |          | T specials                           |
| F reset           |          | F userpage                           |
| F tosections      |          | F subs                               |
| F finalize        |          | D tobesaved                          |
| F flatten         |          | F value                              |
| F installhandler  |          | F way                                |
| F merge           |          | <b>currentsectionnumber</b> function |
| S method          |          | <b>descriptions</b> table            |
| F overload        |          | <b>documents</b> table               |
| F place           |          | D data                               |
| F register        |          | F initialize                         |
| F setopened       |          | F preset                             |
| F setup           |          | F reset                              |
| <b>counters</b>   | table    | <b>floats</b> table                  |
| F add             |          | <b>formulas</b> table                |
| F analyze         |          | <b>helpers</b> table                 |
| F check           |          | F analyze                            |
| D collected       |          | F formulanumber                      |
| F compact         |          | F merged                             |
| F converted       |          | F page                               |
| F currentvalue    |          | F pageofinternal                     |
| D data            |          | F prefix                             |
| F define          |          | F prefixlastpage                     |
| F first           |          | F prefixpage                         |
| F get             |          | F simplify                           |
| F last            |          | F title                              |

|                   |       |                            |       |
|-------------------|-------|----------------------------|-------|
| F touserdata      |       | F reordered                |       |
| <b>inserts</b>    | table | T result                   |       |
| D data            |       | F savedlistnumber          |       |
| F define          |       | F savedlistprefixednumber  |       |
| F getdata         |       | F savedlisttitle           |       |
| F getlocation     |       | D sectionblocks            |       |
| F getname         |       | F sectionnumber            |       |
| F getnumber       |       | F size                     |       |
| F setlocation     |       | F title                    |       |
| F setup           |       | D tobesaved                |       |
| D stored          |       | F userdata                 |       |
| <b>itemgroups</b> | table | F uservalue                |       |
| <b>lists</b>      | table | <b>marks</b>               | table |
| F addto           |       | D data                     |       |
| F analyze         |       | F define                   |       |
| B autoreorder     |       | F exists                   |       |
| D cached          |       | F fetch                    |       |
| D collected       |       | F fetchallmarks            |       |
| F discard         |       | F fetched                  |       |
| F enhance         |       | F fetchonemark             |       |
| T enhancers       |       | F fetchtwomarks            |       |
| F filter          |       | F get                      |       |
| F formulainumber  |       | F number                   |       |
| F getresult       |       | F relate                   |       |
| F groupindex      |       | F reset                    |       |
| F hasnumberdata   |       | F set                      |       |
| F haspagedata     |       | F show                     |       |
| F hastitledata    |       | F synchronize              |       |
| F iscached        |       | F title                    |       |
| D kinds           |       | T tracers                  |       |
| F label           |       | F showtable                |       |
| F location        |       | <b>notes</b>               | table |
| D names           |       | F check_spacing            |       |
| F number          |       | F checkpagechange          |       |
| D ordered         |       | F define                   |       |
| F page            |       | F doifonsamepageasprevious |       |
| F popnesting      |       | F get                      |       |
| F prefix          |       | F getdeltapage             |       |
| F prefixednumber  |       | F getinternal              |       |
| F prefixedpage    |       | F getn                     |       |
| F process         |       | F getstate                 |       |
| D pushed          |       | F hascontent               |       |
| F pushnesting     |       | F internal                 |       |
| F realpage        |       | F internalid               |       |

F listindex  
T numbers  
F ordered  
F postpone  
F resetpostponed  
F restore  
F save  
F setstate  
D states  
F store

## pages table

F allmarked  
F analyze  
D collected  
F fraction  
F in\_body  
F is\_odd  
F mark  
F marked  
N nopages  
F number  
F on\_right  
F save  
D tobesaved  
F toranges

## references table

F analyze  
F checkedfile  
F checkedfileorurl  
F checkedprogram  
F checkedrealpage  
F checkedurl  
D collected  
U componentsplitter  
F currentmetadata  
F currentorder  
D currentset  
F define  
D defined  
D derived  
F enhance  
D executers  
F expandcurrent  
F export

T files  
T data  
F define  
F found  
F get  
F filter  
F filterdefault  
D filters  
D flaginternals  
F from  
D functions  
F get  
F getcurrentmetadata  
F getcurrentprefixspec  
F getinnermethod  
F getinternalcachedlistreference  
F getinternallistreference  
F getinternalreference  
F getoutermethod  
D handlers  
F identify  
F import  
F inject  
F injectcurrentset  
S innermethod  
D internals  
F load  
F loadpresets  
F mark  
S outermethod  
D pages  
U prefixsplitter  
D productdata  
T programs  
T data  
F define  
F get  
F realpageofpage  
U referencesplitter  
D referred  
F referredpage  
F registerfinalizer  
F registerinitializer  
F registerpage



- F reset
- D runners
- F set
- F setandgetattribute
- F setcomponent
- F setinternalreference
- F setlinkmethod
- F setnextinternal
- F setnextorder
- F setreferencerealpage
- D specials
- F splitcomponent
- F splitprefix
- F splitreference
- F synchronizepage
- T testrunners
  - F inner
  - F special
  - F special operation
  - F special operation with arguments
- T testspecials
  - F deltapage
  - F i
  - F internal
  - F page
  - F realpage
  - F section
  - F userpage
- D tobereferred
- D tobesaved
- D tracedpages
- T urls
  - T data
  - F define
  - F found
  - F get
  - F untex
- D usedinternals
- D usedviews
- F valid

## registers

- F analyze
- D collected
- F compare

## table

- F define
- F enhance
- F extend
- F filter
- F filtercollected
- F finalize
- F findinternal
- F flush
- F get
- F prepare
- F process
- F setmethod
- F sort
- F store
- D tobesaved
- F unique
- F userdata

## sections

- F autodepth
- F cct
- D collected
- F current
- F currentblock
- F currentid
- F currentlevel
- F currentsectionindex
- F depthnumber
- F finddata
- F findnumber
- F fullnumber
- F getcurrentlevel
- F getlevel
- F getnumber
- F internalreference
- D levelmap
- D levels
- F matchingtilldepth
- F numberatdepth
- F numbers
- F popblock
- F prefixedconverted
- F pushblock
- F register
- D registered

## table

|                    |              |                     |              |
|--------------------|--------------|---------------------|--------------|
| F reportstructure  |              | F registerused      |              |
| F save             |              | F resetshown        |              |
| T sectionblockdata |              | F resetused         |              |
| T bodypart         |              | F sort              |              |
| S bookmark         |              | F synonym           |              |
| F set              |              | D tobesaved         |              |
| F setblock         |              | <b>tags</b>         | <b>table</b> |
| F setchecker       |              | F current           |              |
| F setentry         |              | F elementtag        |              |
| F setinitialblock  |              | F finishexport      |              |
| F setlevel         |              | F getextradata      |              |
| F setnumber        |              | F getid             |              |
| F showstructure    |              | F getmetadata       |              |
| F structuredata    |              | F gettablecell      |              |
| F title            |              | F gettabulatecell   |              |
| D tobesaved        |              | F handler           |              |
| F typesetnumber    |              | F initializeexport  |              |
| F userdata         |              | D labels            |              |
| B verbose          |              | F last              |              |
| <b>sets</b>        | <b>table</b> | F lastinchain       |              |
| F define           |              | F locatedtag        |              |
| F get              |              | T patterns          |              |
| F getall           |              | U splitter          |              |
| D setlist          |              | D properties        |              |
| <b>specials</b>    | <b>table</b> | F registerextradata |              |
| D collected        |              | F registermetadata  |              |
| F retrieve         |              | F restart           |              |
| F store            |              | F setaspect         |              |
| D tobesaved        |              | F setattributehash  |              |
| <b>synonyms</b>    | <b>table</b> | F setcombination    |              |
| F analyzed         |              | F setconstruct      |              |
| D collected        |              | F setfigure         |              |
| F compare          |              | F setfloat          |              |
| F define           |              | F setformulacontent |              |
| F filter           |              | F sethighlight      |              |
| F finalize         |              | F setitem           |              |
| F flush            |              | F setitemgroup      |              |
| F isshown          |              | F setlist           |              |
| F isused           |              | F setnotation       |              |
| F meaning          |              | F setnotationsymbol |              |
| F prepare          |              | F setparagraph      |              |
| F process          |              | F setproperty       |              |
| F register         |              | F setpublication    |              |
| F registershown    |              | F setregister       |              |

F setsorting

F setsynonym

F settablecell

F settabulatecell

F settagdelimitedsymbol

F settagssentencesymbol

F setupexport

F setuserproperties

D specifications

F start

F stop

F strip

D taglist

T usewithcare

T images

## table (basic lua)

|                        |          |                             |          |
|------------------------|----------|-----------------------------|----------|
| <b>allkeys</b>         | function | <b>pack</b>                 | function |
| <b>append</b>          | function | <b>prepend</b>              | function |
| <b>are_equal</b>       | function | <b>print</b>                | function |
| <b>collapsed</b>       | function | <b>remove</b>               | function |
| <b>collapsedhash</b>   | function | <b>reverse</b>              | function |
| <b>compact</b>         | function | <b>reversed</b>             | function |
| <b>concat</b>          | function | <b>save</b>                 | function |
| <b>contains</b>        | function | <b>sequenced</b>            | function |
| <b>copy</b>            | function | <b>serialize</b>            | function |
| <b>count</b>           | function | <b>setmetatablecall</b>     | function |
| <b>derive</b>          | function | <b>setmetatableindex</b>    | function |
| <b>deserialize</b>     | function | <b>setmetatableindices</b>  | function |
| <b>drop</b>            | function | <b>setmetatablekey</b>      | function |
| <b>fastcopy</b>        | function | <b>setmetatablenewindex</b> | function |
| <b>fastserialize</b>   | function | <b>sort</b>                 | function |
| <b>filtered</b>        | function | <b>sorted</b>               | function |
| <b>flattened</b>       | function | <b>sortedhash</b>           | function |
| <b>fromhash</b>        | function | <b>sortedhashkeys</b>       | function |
| <b>getmetatablekey</b> | function | <b>sortedhashonly</b>       | function |
| <b>getn</b>            | function | <b>sortedindexonly</b>      | function |
| <b>has_one_entry</b>   | function | <b>sortedkeys</b>           | function |
| <b>hashed</b>          | function | <b>sortedpairs</b>          | function |
| <b>identical</b>       | function | <b>sparse</b>               | function |
| <b>imerge</b>          | function | <b>strip</b>                | function |
| <b>imerged</b>         | function | <b>sub</b>                  | function |
| <b>insert</b>          | function | <b>swapped</b>              | function |
| <b>is_empty</b>        | function | <b>tocontext</b>            | function |
| <b>is_simple_table</b> | function | <b>tocsv</b>                | function |
| <b>keys</b>            | function | <b>tofile</b>               | function |
| <b>load</b>            | function | <b>tohandle</b>             | function |
| <b>loweredkeys</b>     | function | <b>tohash</b>               | function |
| <b>makewweak</b>       | function | <b>toxml</b>                | function |
| <b>merge</b>           | function | <b>twowaymapper</b>         | function |
| <b>merged</b>          | function | <b>unique</b>               | function |
| <b>mirrored</b>        | function | <b>unnest</b>               | function |
| <b>move</b>            | function | <b>unpack</b>               | function |
| <b>ordered</b>         | function | <b>values</b>               | function |
| <b>orderedhash</b>     | function |                             |          |

# tex (basic tex)

|                                  |            |                             |            |
|----------------------------------|------------|-----------------------------|------------|
| <b>attribute</b>                 | table      | <b>getcount</b>             | function   |
| <b>badness</b>                   | function   | <b>getdelcode</b>           | function   |
| <b>box</b>                       | table      | <b>getdelcodes</b>          | function   |
| <b>boxresources</b>              | table      | <b>getdimen</b>             | function   |
| F getbox                         |            | <b>geterrorvalues</b>       | function   |
| F getdimensions                  |            | <b>getfontoffamily</b>      | function   |
| F save                           |            | <b>getglue</b>              | function   |
| F use                            |            | <b>getglyphdata</b>         | function   |
| <b>catcode</b>                   | table      | <b>getglyphscript</b>       | function   |
| <b>chardef</b>                   | function   | <b>getglyphstate</b>        | function   |
| <b>conditionals</b>              | data table | <b>getgroupvalues</b>       | function   |
| <b>constants</b>                 | data table | <b>gethelptext</b>          | function   |
| <b>count</b>                     | table      | <b>gethyphenationvalues</b> | function   |
| <b>cprint</b>                    | function   | <b>getinteraction</b>       | function   |
| <b>ctdcatcodes</b>               | number     | <b>getlargestusedmark</b>   | function   |
| <b>ctxcatcodes</b>               | number     | <b>getlccode</b>            | function   |
| <b>definefont</b>                | function   | <b>getlinedir</b>           | function   |
| <b>delcode</b>                   | table      | <b>getlist</b>              | function   |
| <b>dimen</b>                     | table      | <b>getlocallevel</b>        | function   |
| <b>directives</b>                | data table | <b>getmark</b>              | function   |
| <b>enableprimitives</b>          | function   | <b>getmath</b>              | function   |
| <b>error</b>                     | function   | <b>getmathcode</b>          | function   |
| <b>experiments</b>               | data table | <b>getmathcodes</b>         | function   |
| <b>extraprimitives</b>           | function   | <b>getmathdir</b>           | function   |
| <b>fatalerror</b>                | function   | <b>getmodevalues</b>        | function   |
| <b>fontidentifier</b>            | function   | <b>getmuglue</b>            | function   |
| <b>fontname</b>                  | function   | <b>getmuskip</b>            | function   |
| <b>force_synctex_line</b>        | function   | <b>getnest</b>              | function   |
| <b>force_synctex_tag</b>         | function   | <b>getoutputactive</b>      | function   |
| <b>forcehmode</b>                | function   | <b>getpagestate</b>         | function   |
| <b>fprint</b>                    | function   | <b>getpardir</b>            | function   |
| <b>get</b>                       | function   | <b>getprefixvalues</b>      | function   |
| <b>get_synctex_line</b>          | function   | <b>getsfcode</b>            | function   |
| <b>get_synctex_mode</b>          | function   | <b>getskip</b>              | function   |
| <b>get_synctex_tag</b>           | function   | <b>gettextdir</b>           | function   |
| <b>getattribute</b>              | function   | <b>gettoks</b>              | function   |
| <b>getbox</b>                    | function   | <b>getuccode</b>            | function   |
| <b>getboxdir</b>                 | function   | <b>glue</b>                 | table      |
| <b>getboxresourcebox</b>         | function   | <b>groupcodes</b>           | data table |
| <b>getboxresourcecdimensions</b> | function   | <b>hashtokens</b>           | function   |
| <b>getcatcode</b>                | function   | <b>hyphenationcodes</b>     | data table |

|                       |                     |                             |          |
|-----------------------|---------------------|-----------------------------|----------|
| <b>ifs</b>            | data table          | <b>prtcattcodes</b>         | number   |
| <b>inicatcodes</b>    | number              | <b>quittoks</b>             | function |
| <b>isattribute</b>    | function            | <b>resetparagraph</b>       | function |
| <b>isbox</b>          | function            | <b>romannumeral</b>         | function |
| <b>iscount</b>        | overloaded function | <b>round</b>                | function |
| <b>isdefined</b>      | function            | <b>runtoks</b>              | function |
| <b>isdimen</b>        | overloaded function | <b>saveboxresource</b>      | function |
| <b>isglue</b>         | function            | <b>scale</b>                | function |
| <b>ismuglue</b>       | function            | <b>scantoks</b>             | function |
| <b>ismuskip</b>       | overloaded function | <b>set</b>                  | function |
| <b>isprintable</b>    | function            | <b>set_synctex_line</b>     | function |
| <b>isskip</b>         | overloaded function | <b>set_synctex_mode</b>     | function |
| <b>istoken</b>        | function            | <b>set_synctex_no_files</b> | function |
| <b>istoks</b>         | function            | <b>set_synctex_tag</b>      | function |
| <b>lastnodetype</b>   | function            | <b>setattribute</b>         | function |
| <b>lccode</b>         | table               | <b>setbox</b>               | function |
| <b>linebreak</b>      | function            | <b>setboxdir</b>            | function |
| <b>lists</b>          | table               | <b>setcatcode</b>           | function |
| <b>luacatcodes</b>    | number              | <b>setcount</b>             | function |
| <b>magicconstants</b> | table               | <b>setdelcode</b>           | function |
| N maxdimen            |                     | <b>setdimen</b>             | function |
| N running             |                     | <b>setglue</b>              | function |
| N trueinch            |                     | <b>setglyphdata</b>         | function |
| <b>mathchardef</b>    | function            | <b>setglyphscript</b>       | function |
| <b>mathcode</b>       | table               | <b>setglyphstate</b>        | function |
| <b>modelevels</b>     | table               | <b>setinteraction</b>       | function |
| N horizontal          |                     | <b>setlccode</b>            | function |
| N math                |                     | <b>setlinedir</b>           | function |
| N unset               |                     | <b>setlist</b>              | function |
| N vertical            |                     | <b>setmath</b>              | function |
| <b>modes</b>          | data table          | <b>setmathcode</b>          | function |
| <b>muglue</b>         | table               | <b>setmathdir</b>           | function |
| <b>muskip</b>         | table               | <b>setmuglue</b>            | function |
| <b>nest</b>           | table               | <b>setmuskip</b>            | function |
| <b>nilcatcodes</b>    | number              | <b>setnest</b>              | function |
| <b>notcatcodes</b>    | number              | <b>setpardir</b>            | function |
| <b>number</b>         | function            | <b>setsfcode</b>            | function |
| <b>prefixcodes</b>    | table               | <b>setskip</b>              | function |
| N frozen              |                     | <b>settettdir</b>           | function |
| N global              |                     | <b>settoks</b>              | function |
| N immediate           |                     | <b>setuccode</b>            | function |
| N protected           |                     | <b>sfcode</b>               | table    |
| <b>primitives</b>     | function            | <b>shipout</b>              | function |
| <b>print</b>          | function            | <b>show_context</b>         | function |

|                    |            |                         |            |
|--------------------|------------|-------------------------|------------|
| <b>skip</b>        | table      | <b>tpbcatcodes</b>      | number     |
| <b>sp</b>          | function   | <b>tprint</b>           | function   |
| <b>splitbox</b>    | function   | <b>trackers</b>         | data table |
| <b>sprint</b>      | function   | <b>triggerbuildpage</b> | function   |
| <b>systemmodes</b> | data table | <b>txtcatcodes</b>      | number     |
| <b>takebox</b>     | function   | <b>type</b>             | function   |
| <b>texcatcodes</b> | number     | <b>uccode</b>           | table      |
| <b>toks</b>        | table      | <b>uprint</b>           | function   |
| <b>tonumber</b>    | function   | <b>useboxresource</b>   | function   |
| <b>toscaled</b>    | function   | <b>vrbcacodes</b>       | number     |
| <b>tpacacodes</b>  | number     | <b>write</b>            | function   |

## texconfig (basic tex)

|                        |                     |                        |        |
|------------------------|---------------------|------------------------|--------|
| <b>buffer_size</b>     | number              | <b>max_print_line</b>  | number |
| <b>error_line</b>      | number              | <b>max_strings</b>     | number |
| <b>expand_depth</b>    | number              | <b>nest_size</b>       | number |
| <b>firstline</b>       | string              | <b>node_size</b>       | number |
| <b>formatname</b>      | string              | <b>param_size</b>      | number |
| <b>function_size</b>   | number              | <b>properties_size</b> | number |
| <b>half_error_line</b> | number              | <b>save_size</b>       | number |
| <b>hash_extra</b>      | number              | <b>shell_escape</b>    | string |
| <b>init</b>            | overloaded function | <b>stack_size</b>      | number |
| <b>kpse_init</b>       | boolean             | <b>token_size</b>      | number |
| <b>max_in_open</b>     | number              |                        |        |



## texio (basic tex)

**closeinput** function

**terminal** function

**write** function

**write\_nl** function

# token (basic tex)

## accessors

F active  
F cmd  
F cmdchrsc  
F cmdname  
F command  
F csname  
F expandable  
F frozen  
F index  
F name  
F protected  
F range  
F user

**biggest\_char** function  
**command\_id** function  
**create** function  
**expand** function  
**future\_expand** function  
**get\_active** function  
**get\_cmdchrsc** function  
**get\_cmdname** function  
**get\_command** function  
**get\_csname** function  
**get\_cstoken** function  
**get\_data** function  
**get\_expandable** function  
**get\_frozen** function  
**get\_id** function  
**get\_index** function  
**get\_macro** function  
**get\_meaning** function  
**get\_pool\_list** function  
**get\_protected** function  
**get\_range** function  
**get\_tok** function  
**get\_user** function  
**gobble** function  
**gobble\_dimen** function  
**gobble\_int** function  
**is\_defined** function

## table

**is\_next\_char** function  
**is\_token** function  
**new** function  
**peek\_next** function  
**peek\_next\_char** function  
**peek\_next\_expanded** function  
**pop\_macro** function  
**primitives** function  
**push\_macro** function  
**put\_back** function  
**put\_next** function  
**save\_lua** function  
**scan\_argument** function  
**scan\_box** function  
**scan\_cardinal** function  
**scan\_char** function  
**scan\_cmdchr** function  
**scan\_cmdchr\_expanded** function  
**scan\_code** function  
**scan\_csname** function  
**scan\_delimited** function  
**scan\_dimen** function  
**scan\_float** function  
**scan\_glue** function  
**scan\_integer** function  
**scan\_key** function  
**scan\_keyword** function  
**scan\_keyword\_cs** function  
**scan\_letters** function  
**scan\_luacardinal** function  
**scan\_luainteger** function  
**scan\_luanumber** function  
**scan\_next** function  
**scan\_next\_char** function  
**scan\_next\_expanded** function  
**scan\_real** function  
**scan\_skip** function  
**scan\_string** function  
**scan\_token** function  
**scan\_token\_code** function  
**scan\_tokenlist** function

|                   |          |                           |          |
|-------------------|----------|---------------------------|----------|
| <b>scan_toks</b>  | function | <b>set_macro</b>          | function |
| <b>scan_value</b> | function | <b>skip_next</b>          | function |
| <b>scan_word</b>  | function | <b>skip_next_expanded</b> | function |
| <b>set_char</b>   | function | <b>to_string</b>          | function |
| <b>set_data</b>   | function | <b>type</b>               | function |
| <b>set_lua</b>    | function | <b>values</b>             | function |

# tokens (context)

**astable** function

**bits** table

N active  
N alignment  
N begingroup  
N character  
N close  
N comment  
N endgroup  
N endoffline  
N escape  
N ignore  
N invalid  
N letter  
N mathshift  
N open  
N other  
N parameter  
N space  
N subscript  
N superscript  
N whitespace

**cache** table

U NC  
U NR  
U bf  
U color  
U colordefalc  
U colordefflc  
U colordefflt  
U colordefrlt  
U dofinishreference  
U dostarttext  
U finishjob  
U firstofoneargument  
U firstoftwoarguments  
U gobbleoneargument  
U goto  
U iftrue  
U input  
U loadfoundtypescriptfile

U resetctxscanner  
U rlap  
U scratchcounter  
U scratchdimen  
U scratchmuskip  
U scratchskip  
U scratchtoken  
U secondoftwoarguments  
U setfalsevalue  
U setsectionblock  
U setupsystem  
U startcolumns  
U starttabulate  
U starttitle  
U startxtitle  
U stopcolumns  
U stoptabulate  
U stoptitle  
U stopxtitle  
U texsetup  
U xmlw

**commands** data table

**compile** function

**constant** function

**converters** table

S toboolean  
S todimen  
S toglue  
S tonumber  
S toString

**create** function

**defined** function

**getdata** function

**getters** table

F box  
F count  
F cstoken  
F dimen  
F glue  
F macro  
F meaning

**F skip**  
**F token**  
**isdefined** function  
**istoken** function  
**new** function  
**pickup** function  
**popmacro** function  
**presets** table

T 1 argument  
 T 1 string  
 T 2 arguments  
 T 2 strings  
 T 3 arguments  
 T 3 strings  
 T 4 arguments  
 T 4 strings  
 T 5 strings  
 T 6 strings  
 T 7 strings  
 T 8 strings

**pushmacro** function  
**scanners** table

F argument  
 F argumentasis  
 F array  
 F boolean  
 F box  
 F bracketed  
 F bracketedasis  
 F cardinal  
 F char  
 F cmdchr  
 F cmdchrexploded  
 F code  
 F conditional  
 F count  
 F csname  
 F delimited  
 F dimen  
 F dimension  
 F float  
 F glue  
 F gluespec  
 F gluevalues

**F hash**  
**F hbox**  
**F integer**  
**F ischar**  
**F key**  
**F keyword**  
**F keywordcs**  
**F letters**  
**F list**  
**F luacardinal**  
**F luainteger**  
**F luanumber**  
**F lxmlid**  
**F next**  
**F nextexpanded**  
**F number**  
**F optional**  
**F peek**  
**F peekchar**  
**F peekexpanded**  
**F real**  
**F scanclose**  
**F scanopen**  
**F skip**  
**F skipexpanded**  
**F string**  
**F table**  
**F token**  
**F tokencode**  
**F tokenlist**  
**F tokens**  
**F toks**  
**F value**  
**F vbox**  
**F verbatim**  
**F vtop**  
**F whd**  
**F word**

**setdata** function  
**setters** table

F box  
 F char  
 F count  
 F dimen

|                        |                    |
|------------------------|--------------------|
| F glue                 | F scandimension    |
| F lua                  | F scan glue        |
| F macro                | F scan glue spec   |
| F skip                 | F scan glue values |
| <b>shortcuts</b> table | F scan hash        |
| T bits                 | F scan hbox        |
| N active               | F scan integer     |
| N alignment            | F scan keyword     |
| N begingroup           | F scan keyword cs  |
| N character            | F scan letters     |
| N close                | F scan list        |
| N comment              | T scanners         |
| N endgroup             | F argument         |
| N endofline            | F argument asis    |
| N escape               | F array            |
| N ignore               | F boolean          |
| N invalid              | F box              |
| N letter               | F bracketed        |
| N mathshift            | F bracketed asis   |
| N open                 | F cardinal         |
| N other                | F char             |
| N parameter            | F cmd chr          |
| N space                | F cmd chr expanded |
| N subscript            | F code             |
| N superscript          | F conditional      |
| N whitespace           | F count            |
| N close                | F cs name          |
| F inspect              | F delimited        |
| N open                 | F dimen            |
| F report               | F dimension        |
| F scan argument        | F float            |
| F scan argument asis   | F glue             |
| F scan array           | F glue spec        |
| F scan boolean         | F glue values      |
| F scan box             | F hash             |
| F scan bracketed       | F hbox             |
| F scan bracketed asis  | F integer          |
| F scan cardinal        | F is char          |
| F scan close           | F key              |
| F scan code            | F keyword          |
| F scan conditional     | F keyword cs       |
| F scan cs name         | F letters          |
| F scan delimited       | F list             |
| F scan dimen           | F luacardinal      |

|                 |                           |
|-----------------|---------------------------|
| F luainteger    | U NC                      |
| F luanumber     | U NR                      |
| F lxmlid        | U bf                      |
| F next          | U color                   |
| F nextexpanded  | U colordefalc             |
| F number        | U colordefflc             |
| F optional      | U colordefflt             |
| F peek          | U colordefrlt             |
| F peekchar      | U dofinishreference       |
| F peekexpanded  | U dostarttext             |
| F real          | U finishjob               |
| F scanclose     | U firstofoneargument      |
| F scanopen      | U firstoftwoarguments     |
| F skip          | U gobbleoneargument       |
| F skipexpanded  | U goto                    |
| F string        | U iftrue                  |
| F table         | U input                   |
| F token         | U loadfoundtypescriptfile |
| F tokencode     | U resetctxscanner         |
| F tokenlist     | U rlap                    |
| F tokens        | U scratchcounter          |
| F toks          | U scratchdimen            |
| F value         | U scratchmuskip           |
| F vbox          | U scratchskip             |
| F verbatim      | U scratchtoken            |
| F vtop          | U secondoftwoarguments    |
| F whd           | U setfalsevalue           |
| F word          | U setsectionblock         |
| F scannumber    | U setupsystem             |
| F scanopen      | U startcolumns            |
| F scanoptional  | U starttabulate           |
| F scanstring    | U starttitle              |
| F scantable     | U startxtitle             |
| F scantokenlist | U stopcolumns             |
| F scantoks      | U stoptabulate            |
| F scanvbox      | U stoptitle               |
| F scanverbatim  | U stopxtitle              |
| F scanvtop      | U texsetup                |
| F scanword      | U xmlw                    |
| F toboolean     | D commands                |
| F todimen       | F compile                 |
| T tokens        | F constant                |
| F astable       | T converters              |
| T cache         | S toboolean               |

|                    |                          |
|--------------------|--------------------------|
| S todimen          | F scanboolean            |
| S toglue           | F scanbox                |
| S tonumber         | F scanbracketed          |
| S toString         | F scanbracketedasis      |
| F create           | F scancardinal           |
| F defined          | F scanclose              |
| F getdata          | F scancode               |
| T getters          | F scanconditional        |
| F box              | F scanscname             |
| F count            | F scandelimited          |
| F cstoken          | F scandimen              |
| F dimen            | F scandimension          |
| F glue             | F scanglue               |
| F macro            | F scangluespec           |
| F meaning          | F scangluevalues         |
| F skip             | F scanhash               |
| F token            | F scanhbox               |
| F isdefined        | F scaninteger            |
| F istoken          | F scankeyword            |
| F new              | F scankeywordcs          |
| F pickup           | F scanletters            |
| F popmacro         | F scanlist               |
| T presets          | F scannumber             |
| F pushmacro        | F scanopen               |
| F setdata          | F scanoptional           |
| T setters          | F scanstring             |
| F box              | F scantable              |
| F char             | F scantokenlist          |
| F count            | F scantoks               |
| F dimen            | F scanvbox               |
| F glue             | F scanverbatim           |
| F lua              | F scanvtop               |
| F macro            | F scanword               |
| F skip             | F toboolean              |
| T shortcuts        | F todimen                |
| N close            | F tonumber               |
| F inspect          | F toString               |
| N open             | D values                 |
| F report           | F tonumber               |
| F scanargument     | F toString               |
| F scanargumentasis | <b>values</b> data table |
| F scanarray        |                          |



# tracers (context)

|                  |          |                     |          |
|------------------|----------|---------------------|----------|
| <b>count</b>     | function | <b>primitive</b>    | function |
| <b>cs</b>        | function | <b>printerror</b>   | function |
| <b>dimen</b>     | function | <b>printwarning</b> | function |
| <b>knownlist</b> | function | <b>showlines</b>    | function |
| <b>lists</b>     | table    | <b>strings</b>      | table    |
| T context        |          | S undefined         |          |
| T internals      |          | <b>toks</b>         | function |
| T scratch        |          | <b>type</b>         | function |
| <b>name</b>      | function |                     |          |

## trackers (context)

|                       |            |                 |          |
|-----------------------|------------|-----------------|----------|
| <b>data</b>           | data table | <b>name</b>     | string   |
| <b>default</b>        | function   | <b>register</b> | function |
| <b>disable</b>        | function   | <b>report</b>   | function |
| <b>done</b>           | table      | <b>reset</b>    | function |
| <b>dumphashtofile</b> | function   | <b>savehash</b> | function |
| <b>enable</b>         | function   | <b>show</b>     | function |
| <b>list</b>           | function   | <b>value</b>    | function |

# typesetters (context)

## **alignments**      table

F handler

F set

## **breakpoints**      table

F define

F handler

D mapping

T methods

T numbers

F set

F setreplacement

## **cases**      table

T actions

F handler

F register

F set

## **characteralign** table

F handler

F resetcharacteralign

F setcharacteralign

## **characters**      table

F handler

T methods

F replacensp

F replacenspaces

## **checkers**      table

F handler

F reset

F set

## **cleaners**      table

F handler

F set

## **digits**      table

T actions

F handler

F set

## **directions**      table

F getfences

F getglobal

F getmethod

F handler

T handlers

F installhandler

F processmath

F set

F setcolor

F setmath

F tomode

## **firstlines**      table

T actions

F default

F line

F word

F handler

F set

## **fontkerns**      table

F handler

## **initials**      table

T actions

F default

F addanchortoline

F addtoline

F calculatedelta

F checkline

F handler

F moveinline

F normalize

F set

## **injectors**      table

F check

T list

F mark

F reset

F set

F show

## **italics**      table

F enablemath

F enabletext

F forcevariant

F handler

F reset

F set

## **kerns**      table

D factors  
F handler  
F keepligature  
D mapping  
F set

## **manipulators**      table

F apply  
F applyspecification  
T methods  
F Word  
F Words  
F abbreviatedjournal  
F expandedjournal  
F lowercase  
F stripperperiod  
F uppercase  
T patterns  
U list  
U pair  
F splitspecification

## **margins**      table

F finalhandler  
F globalhandler  
F localhandler  
F save

## **marksuspects**      function

## **paragraphs**      table

F addanchortoline  
F addtoline  
F calculatedelta  
F checkline  
F handler  
F moveinline  
F normalize  
F set

## **periodkerns**      table

D factors  
F handler  
D mapping  
F set

## **processors**      table

F apply  
F register  
F reset  
F split  
F startapply  
F stopapply  
F stripped  
F toString

## **rubies**      table

F attach  
F check

## **showsuspects**      function

## **spacings**      table

F define  
F handler  
D mapping  
T numbers  
T frenchpunctuation  
T characters  
S name  
N number

F reset

F set

F setup

## **wrappers**      table

F handler

## **xtables**      table

F cleanup  
F construct  
F create  
F finish\_row  
F flush  
F initialize\_construct  
F initialize\_reflow\_height  
F initialize\_reflow\_width  
F next\_row  
F reflow\_height  
F reflow\_width  
F set\_construct  
F set\_reflow\_height  
F set\_reflow\_width

## updaters (context)

**apply**     function

**register** function

## url (context)

|                  |          |
|------------------|----------|
| <b>addscheme</b> | function |
| <b>barepath</b>  | function |
| <b>construct</b> | function |
| <b>decode</b>    | function |
| <b>encode</b>    | function |
| <b>escape</b>    | function |
| <b>filename</b>  | function |

|                    |          |
|--------------------|----------|
| <b>hashed</b>      | function |
| <b>hasscheme</b>   | function |
| <b>query</b>       | function |
| <b>split</b>       | function |
| <b>toquery</b>     | function |
| <b>unescape</b>    | function |
| <b>unescapeget</b> | function |

## utf8 (basic lua)

**char**           function  
**charpattern** string  
**codepoint**    function

**codes**         function  
**len**           function  
**offset**        function

# utilities (context)

## debugger

table

- F disable
- F enable
- F savestats
- F showstats
- F showtraceback

## files

table

- F close
- F getposition
- F getsize
- F look
- F open
- F read2dot14
- F readbyte
- F readbytes
- F readbytetable
- F readcardinal
- F readcardinal1
- F readcardinal1le
- F readcardinal2
- F readcardinal2le
- F readcardinal3
- F readcardinal3le
- F readcardinal4
- F readcardinal4le
- F readcardinaltable
- F readchar
- F readfixed2
- F readfixed4
- F readinteger
- F readinteger1
- F readinteger1le
- F readinteger2
- F readinteger2le
- F readinteger3
- F readinteger3le
- F readinteger4
- F readinteger4le
- F readintegertable
- F readsignedbyte
- F readstring

- F readtag
- F setposition
- F size
- F skip
- F skiplong
- F skipposition
- F skipshort
- F writebyte
- F writecardinal1
- F writecardinal1le
- F writecardinal2
- F writecardinal2le
- F writecardinal3
- F writecardinal3le
- F writecardinal4
- F writecardinal4le
- F writeinteger1
- F writeinteger1le
- F writeinteger2
- F writeinteger2le
- F writeinteger3
- F writeinteger3le
- F writeinteger4
- F writeinteger4le
- F writestring

## formatters

table

- F formatcolumns
- F list
- F stripzeros

## garbagecollector

table

- F check
- N criterium
- B enabled

## ghostscript

table

- F convert
- F statistics

## graphicmagick

table

- F convert
- F statistics

## graphicsmagick

table

- F convert



## **lua** **table**

F statistics  
B alwaysstripcode  
F checkmemory  
F compile  
F loadedluacode  
F loadstring  
F loadstripped  
N nofstrippedbytes  
N nofstrippedchunks  
F registerfinalizer  
B stripcode  
T strippedchunks  
F strippedloadstring  
T suffixes  
S lua  
S luc  
S lui  
S luj  
S luv  
S tma  
S tmc  
S tua  
S tuc

## **packers** **table**

F hashed  
F new  
F pack  
F simplehashed  
F strip  
F unpack  
N version

## **parsers** **table**

F add\_settings\_to\_array  
F arguments\_to\_table  
F array\_to\_string  
F csvsplitter  
F getparameters  
F groupedsplitat  
F hash\_to\_string  
T hashes  
T settings\_to\_set  
T text,hidden,paper,page,leftpage,rightpage  
B hidden

B leftpage  
B page  
B paper  
B rightpage  
B text  
F iterator  
F keq\_to\_hash  
F listitem  
F make\_settings\_to\_hash\_pattern  
F mergehashes  
F options\_to\_array  
F options\_to\_hash  
T patterns  
U settings\_to\_array  
U settings\_to\_hash\_a  
U settings\_to\_hash\_b  
U settings\_to\_hash\_c  
U settings\_to\_hash\_d  
U unittotex  
F process\_stripped\_settings  
F rfc4180splitter  
F runtime  
F settings\_to\_array  
F settings\_to\_array\_obey\_fences  
F settings\_to\_array\_with\_repeat  
F settings\_to\_hash  
F settings\_to\_hash\_colon\_too  
F settings\_to\_hash\_strict  
F settings\_to\_hash\_tolerant  
F settings\_to\_numbers  
F settings\_to\_set  
F simple\_hash\_to\_string  
F splitmethod  
F splitthousands  
F stepper  
F stripped\_settings\_to\_array  
F totime  
F unittotex  
F unittoxml

## **randomizer** **table**

F get  
F getnumber  
F getseed  
F popseed

|                    |          |                     |       |
|--------------------|----------|---------------------|-------|
| F pushseed         |          | <b>streams</b>      | table |
| F reuseseed        |          | F close             |       |
| F setseed          |          | F getposition       |       |
| F setseedi         |          | F getsize           |       |
| <b>randomizers</b> | table    | F getstring         |       |
| F poisson          |          | F look              |       |
| <b>report</b>      | function | F open              |       |
| <b>sequencers</b>  | table    | F openstring        |       |
| F appendaction     |          | F read2dot14        |       |
| F appendgroup      |          | F read2dot4         |       |
| F compile          |          | F readbyte          |       |
| F disableaction    |          | F readbytes         |       |
| F disablegroup     |          | F readbytetable     |       |
| F enableaction     |          | F readcardinal      |       |
| F enablegroup      |          | F readcardinal1     |       |
| D functions        |          | F readcardinal2     |       |
| F localize         |          | F readcardinal2le   |       |
| F new              |          | F readcardinal3     |       |
| F nodeprocessor    |          | F readcardinal3le   |       |
| F prependaction    |          | F readcardinal4     |       |
| F prependgroup     |          | F readcardinal4le   |       |
| F removeaction     |          | F readcardinaltable |       |
| F replaceaction    |          | F readchar          |       |
| F setkind          |          | F readfixed2        |       |
| F tostring         |          | F readfixed4        |       |
| <b>setters</b>     | table    | F readinteger       |       |
| F disable          |          | F readinteger1      |       |
| F enable           |          | F readinteger2      |       |
| F initialize       |          | F readinteger2le    |       |
| F list             |          | F readinteger3      |       |
| F new              |          | F readinteger3le    |       |
| F register         |          | F readinteger4      |       |
| F report           |          | F readinteger4le    |       |
| F reset            |          | F readintegertable  |       |
| F show             |          | F readsignedbyte    |       |
| <b>stacker</b>     | table    | F readstring        |       |
| F new              |          | F setposition       |       |
| <b>storage</b>     | table    | F size              |       |
| F allocate         |          | F skip              |       |
| F checked          |          | F skipbytes         |       |
| F mark             |          | F skiplong          |       |
| F marked           |          | F skipshort         |       |
| F setinitializer   |          | <b>strings</b>      | table |
| F sparse           |          | F collapse          |       |

- F collapsecrlf
- T formatters
  - F add
  - F new
- F newcollector
- F newrepeater
- F nice
- T striplinepatterns
  - U collapse
  - U prune
  - U prune and collapse
  - U prune and no empty
  - U prune and to space
  - U retain
  - U retain and collapse
  - U retain and no empty
- F striplines
- F striplong
- F tabtospace
- T tracers

**tables**                      table

- F accesstable
- F definedtable

- F definetable
- F encapsulate
- F insertaftervalue
- F insertbeforevalue
- F migratetable
- F removevalue
- F replacevalue

**templates**                      table

- F load
- F replace
- F replacer
- F resolve

**zipfiles**                      table

- F close
- F found
- F gunzipfile
- F hash
- F list
- F open
- F unzip
- F unzipdir
- F zipdir

## visualizers (context)

|                              |            |                        |            |
|------------------------------|------------|------------------------|------------|
| <b>escapepatterns</b>        | data table | <b>signal</b>          | string     |
| <b>getspecification</b>      | function   | <b>signalpattern</b>   | userdata   |
| <b>getvisualizer</b>         | function   | <b>specifications</b>  | data table |
| <b>load</b>                  | function   | <b>visualize</b>       | function   |
| <b>makenested</b>            | function   | <b>visualizebuffer</b> | function   |
| <b>makepattern</b>           | function   | <b>visualizefile</b>   | function   |
| <b>newgrammar</b>            | function   | <b>visualizestring</b> | function   |
| <b>newhandler</b>            | function   | <b>write</b>           | function   |
| <b>parsedxml</b>             | function   | <b>writeargument</b>   | function   |
| <b>pattern</b>               | function   | <b>writedefault</b>    | function   |
| <b>register</b>              | function   | <b>writeemptyline</b>  | function   |
| <b>registerescapecommand</b> | function   | <b>writenewline</b>    | function   |
| <b>registerescapepline</b>   | function   | <b>writespace</b>      | function   |
| <b>registerescapepattern</b> | function   |                        |            |

# xcomplex (extra lua)

|                |          |               |          |
|----------------|----------|---------------|----------|
| <b>I</b>       | function | F sqrt        |          |
| <b>__add</b>   | function | F tan         |          |
| <b>__div</b>   | function | F tanh        |          |
| <b>__eq</b>    | function | F topair      |          |
| <b>__index</b> | table    | F tostring    |          |
| F I            |          | F __mul       |          |
| F __add        |          | S __name      |          |
| F __div        |          | F __pow       |          |
| F __eq         |          | F __sub       |          |
| T __index      |          | F __tostring  |          |
| F I            |          | F __unm       |          |
| F __add        |          | F abs         |          |
| F __div        |          | F acos        |          |
| F __eq         |          | F acosh       |          |
| F __mul        |          | F arg         |          |
| S __name       |          | F asin        |          |
| F __pow        |          | F asinh       |          |
| F __sub        |          | F atan        |          |
| F __tostring   |          | F atanh       |          |
| F __unm        |          | F conj        |          |
| F abs          |          | F cos         |          |
| F acos         |          | F cosh        |          |
| F acosh        |          | F exp         |          |
| F arg          |          | F i           |          |
| F asin         |          | F imag        |          |
| F asinh        |          | F log         |          |
| F atan         |          | F new         |          |
| F atanh        |          | F pow         |          |
| F conj         |          | F proj        |          |
| F cos          |          | F real        |          |
| F cosh         |          | F sin         |          |
| F exp          |          | F sinh        |          |
| F i            |          | F sqrt        |          |
| F imag         |          | F tan         |          |
| F log          |          | F tanh        |          |
| F new          |          | F topair      |          |
| F pow          |          | F tostring    |          |
| F proj         |          | <b>__mul</b>  | function |
| F real         |          | <b>__name</b> | string   |
| F sin          |          | <b>__pow</b>  | function |
| F sinh         |          | <b>__sub</b>  | function |

**\_\_tostring** function  
**\_\_unm** function  
**abs** function  
**acos** function  
**acosh** function  
**arg** function  
**asin** function  
**asinh** function  
**atan** function  
**atanh** function  
**conj** function  
**cos** function  
**cosh** function  
**exp** function

**i** function  
**imag** function  
**log** function  
**new** function  
**pow** function  
**proj** function  
**real** function  
**sin** function  
**sinh** function  
**sqrt** function  
**tan** function  
**tanh** function  
**topair** function  
**tostring** function

# xdecimal (context)

|                |          |                |
|----------------|----------|----------------|
| <b>__add</b>   | function | F min          |
| <b>__band</b>  | function | F minus        |
| <b>__bor</b>   | function | F new          |
| <b>__bxor</b>  | function | F plus         |
| <b>__div</b>   | function | F pow          |
| <b>__eq</b>    | function | F rotate       |
| <b>__index</b> | table    | F setprecision |
| F __add        |          | F shift        |
| F __band       |          | F sqrt         |
| F __bor        |          | F tonumber     |
| F __bxor       |          | F tostring     |
| F __div        |          | F trim         |
| F __eq         |          | F __le         |
| T __index      |          | F __lt         |
| F __add        |          | F __mul        |
| F __band       |          | S __name       |
| F __bor        |          | F __pow        |
| F __bxor       |          | F __shl        |
| F __div        |          | F __shr        |
| F __eq         |          | F __sub        |
| F __le         |          | F __tostring   |
| F __lt         |          | F __unm        |
| F __mul        |          | F abs          |
| S __name       |          | F band         |
| F __pow        |          | F bor          |
| F __shl        |          | F bxor         |
| F __shr        |          | F conj         |
| F __sub        |          | F copy         |
| F __tostring   |          | F exp          |
| F __unm        |          | F getprecision |
| F abs          |          | F ln           |
| F band         |          | F log          |
| F bor          |          | F max          |
| F bxor         |          | F min          |
| F conj         |          | F minus        |
| F copy         |          | F new          |
| F exp          |          | F plus         |
| F getprecision |          | F pow          |
| F ln           |          | F rotate       |
| F log          |          | F setprecision |
| F max          |          | F shift        |

|                         |          |                           |          |
|-------------------------|----------|---------------------------|----------|
| <code>F sqrt</code>     |          | <code>copy</code>         | function |
| <code>F tonumber</code> |          | <code>exp</code>          | function |
| <code>F tostring</code> |          | <code>getprecision</code> | function |
| <code>F trim</code>     |          | <code>ln</code>           | function |
| <code>__le</code>       | function | <code>log</code>          | function |
| <code>__lt</code>       | function | <code>max</code>          | function |
| <code>__mul</code>      | function | <code>min</code>          | function |
| <code>__name</code>     | string   | <code>minus</code>        | function |
| <code>__pow</code>      | function | <code>new</code>          | function |
| <code>__shl</code>      | function | <code>plus</code>         | function |
| <code>__shr</code>      | function | <code>pow</code>          | function |
| <code>__sub</code>      | function | <code>rotate</code>       | function |
| <code>__tostring</code> | function | <code>setprecision</code> | function |
| <code>__unm</code>      | function | <code>shift</code>        | function |
| <code>abs</code>        | function | <code>sqrt</code>         | function |
| <code>band</code>       | function | <code>tonumber</code>     | function |
| <code>bor</code>        | function | <code>tostring</code>     | function |
| <code>bxor</code>       | function | <code>trim</code>         | function |
| <code>conj</code>       | function |                           |          |



## xmath (extra lua)

|                 |          |                  |          |
|-----------------|----------|------------------|----------|
| <b>acos</b>     | function | <b>isnormal</b>  | function |
| <b>acosh</b>    | function | <b>j0</b>        | function |
| <b>asin</b>     | function | <b>j1</b>        | function |
| <b>asinh</b>    | function | <b>jn</b>        | function |
| <b>atan</b>     | function | <b>ldexp</b>     | function |
| <b>atan2</b>    | function | <b>lgamma</b>    | function |
| <b>atanh</b>    | function | <b>log</b>       | function |
| <b>cbrt</b>     | function | <b>log10</b>     | function |
| <b>ceil</b>     | function | <b>log1p</b>     | function |
| <b>copysign</b> | function | <b>log2</b>      | function |
| <b>cos</b>      | function | <b>logb</b>      | function |
| <b>cosh</b>     | function | <b>modf</b>      | function |
| <b>deg</b>      | function | <b>nan</b>       | number   |
| <b>erf</b>      | function | <b>nearbyint</b> | function |
| <b>erfc</b>     | function | <b>nextafter</b> | function |
| <b>exp</b>      | function | <b>pi</b>        | number   |
| <b>exp2</b>     | function | <b>pow</b>       | function |
| <b>expm1</b>    | function | <b>rad</b>       | function |
| <b>fabs</b>     | function | <b>remainder</b> | function |
| <b>fdim</b>     | function | <b>remquo</b>    | function |
| <b>floor</b>    | function | <b>round</b>     | function |
| <b>fma</b>      | function | <b>scalbn</b>    | function |
| <b>fmax</b>     | function | <b>sin</b>       | function |
| <b>fmin</b>     | function | <b>sinh</b>      | function |
| <b>fmod</b>     | function | <b>sqrt</b>      | function |
| <b>frexp</b>    | function | <b>tan</b>       | function |
| <b>gamma</b>    | function | <b>tanh</b>      | function |
| <b>hypot</b>    | function | <b>tgamma</b>    | function |
| <b>inf</b>      | number   | <b>trunc</b>     | function |
| <b>isfinite</b> | function | <b>y0</b>        | function |
| <b>isinf</b>    | function | <b>y1</b>        | function |
| <b>isnan</b>    | function | <b>yn</b>        | function |

# xml (context)

|                                    |                     |                        |                     |
|------------------------------------|---------------------|------------------------|---------------------|
| <b>addentitiesdoctype</b>          | function            | F fontspecification    |                     |
| <b>addspecialcode</b>              | function            | F mappedstylevalue     |                     |
| <b>after</b>                       | function            | F padding              |                     |
| <b>all</b>                         | function            | F size                 |                     |
| <b>applylpath</b>                  | function            | F style                |                     |
| <b>applyselector</b>               | function            | F stylevalue           |                     |
| <b>assign</b>                      | function            | F todimension          |                     |
| <b>attribute</b>                   | function            | F variant              |                     |
| <b>badinclusions</b>               | function            | F weight               |                     |
| <b>before</b>                      | function            | <b>defaulthandlers</b> | table               |
| <b>body</b>                        | function            | D file                 |                     |
| <b>builtinentities</b>             | table               | D parsedxml            |                     |
| B amp                              |                     | D string               |                     |
| B apos                             |                     | D tex                  |                     |
| B gt                               |                     | D texline              |                     |
| B lt                               |                     | D texspace             |                     |
| B quot                             |                     | D verbose              |                     |
| <b>cdata</b>                       | function            | <b>defaultprotocol</b> | string              |
| <b>cdatatotext</b>                 | function            | <b>delete</b>          | function            |
| <b>checkbom</b>                    | function            | <b>delete_element</b>  | <del>function</del> |
| <b>checkerror</b>                  | function            | <b>despecialized</b>   | function            |
| <b>checknamespace</b>              | function            | <b>each</b>            | function            |
| <b>checkns</b>                     | function            | <b>each_element</b>    | <del>function</del> |
| <b>cleansed</b>                    | function            | <b>elements</b>        | function            |
| <b>collect</b>                     | function            | <b>elementtocdata</b>  | function            |
| <del><b>collect_elements</b></del> | <del>function</del> | <b>empty</b>           | function            |
| <b>collect_tags</b>                | function            | <b>entities</b>        | data table          |
| <del><b>collect_texts</b></del>    | <del>function</del> | <b>erase</b>           | function            |
| <b>collected</b>                   | function            | <b>errorhandler</b>    | function            |
| <b>collecttexts</b>                | function            | <b>escaped</b>         | function            |
| <b>compactelement</b>              | function            | <b>expressions</b>     | table               |
| <b>content</b>                     | function            | F attribute            |                     |
| <b>convert</b>                     | function            | F boolean              |                     |
| <b>copy</b>                        | function            | F child                |                     |
| <b>count</b>                       | function            | F contains             |                     |
| <b>cprint</b>                      | function            | F count                |                     |
| <b>css</b>                         | table               | F error                |                     |
| F applyselector                    |                     | F find                 |                     |
| F colorspecification               |                     | F hasclass             |                     |
| F dimension                        |                     | F idstring             |                     |
| F family                           |                     | F lower                |                     |

|                   |          |                            |          |
|-------------------|----------|----------------------------|----------|
| F name            |          | F upperall                 |          |
| F number          |          | F xml                      |          |
| F oneof           |          | T xml                      |          |
| F print           |          | F all                      |          |
| F quit            |          | F att                      |          |
| F tag             |          | F attribute                |          |
| F text            |          | F attributes               |          |
| F undefined       |          | F cdata                    |          |
| F upper           |          | F chainattribute           |          |
| <b>fillin</b>     | function | F count                    |          |
| <b>filter</b>     | function | F default                  |          |
| <b>finalizers</b> | table    | F elements                 |          |
| F paragraphs      |          | F empty                    |          |
| T tex             |          | F first                    |          |
| F all             |          | F function                 |          |
| F attribute       |          | F index                    |          |
| F chainattribute  |          | F last                     |          |
| F chainpath       |          | F lowerall                 |          |
| F command         |          | F match                    |          |
| F concat          |          | F name                     |          |
| F concatrange     |          | F position                 |          |
| F context         |          | F reverse                  |          |
| F count           |          | F table                    |          |
| F ctxtext         |          | F tag                      |          |
| F default         |          | F tags                     |          |
| F depth           |          | F text                     |          |
| F first           |          | F texts                    |          |
| F function        |          | F upperall                 |          |
| F index           |          | <b>first</b>               | function |
| F last            |          | <b>found</b>               | function |
| F lettered        |          | <b>functions</b>           | table    |
| F lower           |          | F classes                  |          |
| F lowerall        |          | F hasclass                 |          |
| F match           |          | <b>getbuffer</b>           | function |
| F name            |          | <b>gethandlers</b>         | function |
| F param           |          | <b>gethandlersfunction</b> | function |
| F parameter       |          | <b>helpers</b>             | table    |
| F position        |          | F recursetext              |          |
| F reverse         |          | <b>include</b>             | function |
| F stripped        |          | <b>inclusion</b>           | function |
| F tag             |          | <b>inclusions</b>          | function |
| F tags            |          | <b>index</b>               | function |
| F text            |          | <b>inheritattributes</b>   | function |
| F upper           |          | <b>inheritedconvert</b>    | function |

|                              |          |                            |          |
|------------------------------|----------|----------------------------|----------|
| <b>inject</b>                | function | <b>process</b>             | function |
| <b>inject_element</b>        | function | <b>process_attributes</b>  | function |
| <b>inject_element_after</b>  | function | <b>process_elements</b>    | function |
| <b>inject_element_before</b> | function | <b>processattributes</b>   | function |
| <b>injectafter</b>           | function | <b>profiled</b>            | table    |
| <b>injectbefore</b>          | function | <b>pure</b>                | function |
| <b>insert</b>                | function | <b>pushmatch</b>           | function |
| <b>insert_element</b>        | function | <b>raw</b>                 | function |
| <b>insert_element_after</b>  | function | <b>registerentity</b>      | function |
| <b>insert_element_before</b> | function | <b>registerns</b>          | function |
| <b>insertafter</b>           | function | <b>reindex</b>             | function |
| <b>insertbefore</b>          | function | <b>remap_name</b>          | function |
| <b>insertcdata</b>           | function | <b>remap_namespace</b>     | function |
| <b>insertcomment</b>         | function | <b>remap_tag</b>           | function |
| <b>inspect</b>               | function | <b>remapname</b>           | function |
| <b>is_valid</b>              | function | <b>remapnamespace</b>      | function |
| <b>kind</b>                  | function | <b>remaptag</b>            | function |
| <b>last</b>                  | function | <b>rename</b>              | function |
| <b>lastmatch</b>             | function | <b>renamespace</b>         | function |
| <b>load</b>                  | function | <b>reparsedentitylpeg</b>  | userdata |
| <b>lpath</b>                 | function | <b>replace</b>             | function |
| <b>lpathcached</b>           | function | <b>replace_element</b>     | function |
| <b>lpathcalls</b>            | function | <b>resetinjectors</b>      | function |
| <b>lshow</b>                 | function | <b>resolvns</b>            | function |
| <b>makestandalone</b>        | function | <b>root</b>                | function |
| <b>match</b>                 | function | <b>save</b>                | function |
| <b>name</b>                  | function | <b>selection</b>           | function |
| <b>newhandlers</b>           | function | <b>separate</b>            | function |
| <b>nodesettostring</b>       | function | <b>serialize</b>           | function |
| <b>originalload</b>          | function | <b>serializetotext</b>     | function |
| <b>package</b>               | function | <b>setcdata</b>            | function |
| <b>parent</b>                | function | <b>setcomment</b>          | function |
| <b>parsedentitylpeg</b>      | userdata | <b>sethandlersfunction</b> | function |
| <b>pihandlers</b>            | table    | <b>setinjectors</b>        | function |
| F injector                   |          | <b>setproperty</b>         | function |
| F tex                        |          | <b>settings</b>            | function |
| <b>placeholders</b>          | table    | <b>specialcodes</b>        | table    |
| F unknown_any_entity         |          | S "                        |          |
| F unknown_dec_entity         |          | S #                        |          |
| F unknown_hex_entity         |          | S \$                       |          |
| <b>popmatch</b>              | function | S %                        |          |
| <b>position</b>              | function | S &                        |          |
| <b>privatecodes</b>          | table    | S '                        |          |
| <b>privatetoken</b>          | function | S <                        |          |

|                                 |          |                                  |          |
|---------------------------------|----------|----------------------------------|----------|
| <code>S &gt;</code>             |          | <code>tocdata</code>             | function |
| <code>S \</code>                |          | <code>toelement</code>           | function |
| <code>S {</code>                |          | <code>tostring</code>            | function |
| <code>S  </code>                |          | <code>totable</code>             | function |
| <code>S }</code>                |          | <code>toxml</code>               | function |
| <code>S ~</code>                |          | <code>tprint</code>              | function |
| <code>specialhandler</code>     | table    | <code>traverse</code>            | function |
| <code>sprint</code>             | function | <code>unescaped</code>           | function |
| <code>string</code>             | function | <code>unescapedentitylpeg</code> | userdata |
| <code>strip</code>              | function | <code>unprivatized</code>        | function |
| <code>strip_whitespace</code>   | function | <code>unspecialized</code>       | function |
| <code>stripelement</code>       | function | <code>wipe</code>                | function |
| <code>stripleadingspaces</code> | function | <code>withelement</code>         | function |
| <code>table</code>              | function | <code>withelements</code>        | function |
| <code>text</code>               | function | <code>wrap</code>                | function |
| <code>textonly</code>           | function | <code>xmlns</code>               | table    |
| <code>texttocdata</code>        | function |                                  |          |

## xzip (extra lua)

**adler32**     function  
**compress**   function  
**crc32**       function

**decompress** function  
**expandsize** function

## zip (extra lua)

**archives**            table  
**closearchive**      function

**openarchive**        function  
**registeredfiles** table

## zlib (extra lua)

**adler32**     function  
**compress**   function  
**crc32**       function

**decompress** function  
**expandsize** function