

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 language  
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** **pdfe** 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** texitdefined texmodes texsystemmodes thirddata  
**token** tokens tracers trackers typesetters updaters url userdata  
**utf8** utilities visualizers **xcomplex** **xdecimal** **xmath** xml **xzip** **zip**  
**zlib**

# ConTEXT LMTX

global (alias: \_G)

CONTEXTLMTXMODE	number
FFISUPPORTED	boolean
INITEXMODE	boolean
LUAMAJORVERSION	number
LUAMINORVERSION	number
LUATEXENGINE	string
LUATEXFORMATID	number
LUATEXFUNCTIONALITY	number
LUATEXVERSION	number
LUAVERSION	number
MP	function
arg	table
assert	function
attributes	table
backends	table
basexx	table
bit32	table
blobs	table
blockrequire	function
boolean	table
buffers	table
builders	table
caches	table
callback	table
callbacks	table
catcodes	table
characters	table
checkimage	function
chemistry	table

collectgarbage	function
commands	table
containers	table
context	function
converters	table
coroutine	table
createmask	function
ctxrunner	table
data	table
debug	table
dimen	function
dir	table
directives	table
document	table
documentdata	table
dofile	function
drivers	table
environment	table
error	function
experiments	table
figures	table
file	table
fio	table
floats	table
flushfontchar	function
flushsimplerule	function
flushspecialrule	function
font	table
fonts	table

functions	table
getmetatable	function
getrpos	function
getscriptstatus	function
global	table
graphics	table
grid_to_mp	function
gzip	table
images	table
inspect	function
interactions	table
interfaces	table
io	table
ipairs	function
job	table
language	table
languages	table
layouts	table
lfs	table
libraries	table
lmx	table
load	function
loadfile	function
loadstring	function
logs	table
lpdf	table
lpeg	table
lua	table
luatex	table
lxml	table
math	table
mathematics	table

md5	table
metapost	table
mime	table
moduledata	table
modules	table
mp	function
mplib	table
next	function
noads	table
node	table
nodes	table
number	table
objects	table
optional	table
optionalrequire	function
os	table
package	table
pagebuilders	table
pairs	function
parametersets	table
pcall	function
pdf	table
pdfdecode	table
pdfe	table
physics	table
pngdecode	table
poporientation	function
print	function
publications	table
pushorientation	function
rawequal	function
rawget	function

<b>rawlen</b>	function
<b>rawset</b>	function
<b>readarray</b>	function
<b>regimes</b>	table
<b>require</b>	function
<b>required</b>	function
<b>resolvers</b>	table
<b>ruledspace</b>	function
<b>sandbox</b>	table
<b>scanarray</b>	function
<b>scanhash</b>	function
<b>scripts</b>	table
<b>select</b>	function
<b>set</b>	table
<b>setinspector</b>	function
<b>setmetatable</b>	function
<b>sha2</b>	table
<b>shipbox_ref_h</b>	number
<b>shipbox_ref_v</b>	number
<b>sio</b>	table
<b>socket</b>	table
<b>sorters</b>	table
<b>statistics</b>	table
<b>status</b>	table
<b>storage</b>	table
<b>streams</b>	table
<b>string</b>	table
<b>structures</b>	table
<b>table</b>	table
<b>tex</b>	table
<b>texconditionals</b>	data table
<b>texconfig</b>	table

<b>texconstants</b>	data table
<b>texifs</b>	data table
<b>texio</b>	table
<b>texisdefined</b>	data table
<b>texmodes</b>	data table
<b>texsystemmodes</b>	data table
<b>thirddata</b>	table
<b>toboolean</b>	function
<b>todecimal</b>	function
<b>token</b>	table
<b>tokens</b>	table
<b>tonumber</b>	function
<b>tostring</b>	function
<b>tracers</b>	table
<b>trackers</b>	table
<b>type</b>	function
<b>typesetters</b>	table
<b>unpack</b>	function
<b>updaters</b>	table
<b>url</b>	table
<b>userdata</b>	table
<b>utf</b>	table
<b>utf8</b>	table
<b>utilities</b>	table
<b>visualizers</b>	table
<b>warn</b>	function
<b>xcomplex</b>	table
<b>xdecimal</b>	table
<b>xmath</b>	table
<b>xml</b>	table
<b>xpcall</b>	function
<b>xzip</b>	table

zip  
zlib

table  
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 graytohsb

F handler

T helpers

F complement

F inbetween

F justone

F hsvtorgay

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 rgbtorgay  
 F rgbtohsb  
 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  
 B weightgray

**define**           function  
**effects**           table

N attribute  
 D data  
 F enable  
 F handler

F register  
 D registered  
 D values

**handlers**           table  
**list**               data table  
**markasoverload**   function  
**names**             data table  
**negatives**         table

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

**numbers**           data table  
**ofnode**            function  
**private**           function  
**public**            function  
**restore**           function  
**save**               function  
**showcurrent**      function  
**states**            table

F disabletriggering  
 F enabletriggering  
 F finalize  
 F initialize  
 F process  
 F selective  
 F stacked  
 F stacker

**system**            function

**tooverloads**      function  
**transparencies** table  
    N attribute  
    D data  
    F enable  
    F forcesupport  
    F handler  
    T names  
        N color  
        N colorburn  
        N colordodge  
        N darken  
        N difference  
        N exclusion  
        N hardlight  
        N hue  
        N lighten  
        N luminosity  
        N multiply  
        N none  
        N normal  
        N overlay  
        N saturation  
        N screen  
        N softlight  
N none  
F register  
D registered  
B supported

    F toattribute  
    B triggering  
    F value  
    D values  
**unsetvalue**      number  
**viewerlayers**    table  
    N attribute  
    F cleanup  
    D data  
    F define  
    F definedlayoutcomponent  
    F enable  
    F forcesupport  
    F handler  
    B hasorder  
    D listwise  
    F register  
    D registered  
    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 scanimage  
F setattachmentsupport  
F setfieldcalculationset  
F setfigurealternative  
F setfigurecolorspace  
F setfiguremask  
F setformat  
F setformsmethod  
F setpagetransition  
F settaggingsupport  
F setupcanvas  
F setupidentity  
F setxmpfile  
F startlayer  
F startunicodetoactualtext  
F startunicodetoactualtextdirect  
F stoplayer  
F stopunicodetoactualtext

F stopunicodetoactualtextdirect  
F supportedformats  
F unicodetoactualtext  
F useviewerlayer  
F validfield  
F validfieldcategory  
F validfieldset  
F wrapimage  
S comment  
T nodeinjections  
F addtags  
F annotation  
F attachfile  
F changestackedlayer  
F cmykcolor  
F comment  
F destination  
F effect  
F graycolor  
F injectbitmap  
F insertmovie  
F insertsound  
F insertswf  
F insertu3d  
F knockout  
F negative  
F overprint  
F positive  
F reference  
F rgbcolor  
F spotcolor  
F startlayer

F startstackedlayer	F rgbindexcolor	
F stoplayer	F rgbspotcolor	
F stopstackedlayer	F spotcolorname	
F transparency	F transparency	
F typesetfield	T tables	
T registrations	D vfspecials	
F cmykindexcolor	<b>registrations</b>	table
F cmykspotcolor	<b>tables</b>	table
F getspotcolorreference	<b>timestamp</b>	function
F grayindexcolor	<b>writeout</b>	function
F grayspotcolor		

## 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
<b>assign</b>	function
<b>collectcontent</b>	function
<b>erase</b>	function
<b>exists</b>	function
<b>get</b>	function
<b>getcontent</b>	function
<b>getlines</b>	function
<b>gettexbuffer</b>	function
<b>loadcontent</b>	function
<b>parallel</b>	table

<b>F define</b>	
<b>F hassomecontent</b>	
<b>F next</b>	
<b>F place</b>	
<b>F reset</b>	
<b>F save</b>	
<b>prepend</b>	function
<b>raw</b>	function
<b>run</b>	function
<b>samplefile</b>	function
<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 checkstrutdepth
- F collapsevbox
- T data
  - D map
  - D skip
  - D snapmethods
- F definesnapmethod

B fixed  
F forcepageflush  
F forcestrutdepth  
F getnofpreviouslines  
F inject  
F injectdisable  
F injectpenalty  
F injectskip  
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>collapsecontent</b>	function
<b>configfiles</b>	function
<b>contentstate</b>	function
<b>defaults</b>	table
<b>getfirstreadablefile</b>	function
<b>getreadablepaths</b>	function
<b>getwritablepath</b>	function
<b>hashed</b>	function
<b>is_writable</b>	function

<b>loadcontent</b>	function
<b>loaddata</b>	function
<b>more</b>	string
<b>savecontent</b>	function
<b>savedata</b>	function
<b>setfirstwritablefile</b>	function
<b>setluaname</b>	function
<b>treehash</b>	function
<b>usedpaths</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 begin\_paragraph

B build\_page\_insert

B buildpage\_filter

B contribute\_filter

B define\_font

B find\_format\_file

B find\_log\_file

B handle\_overload

B hpack\_filter

B hpack\_quality

B hyphenate

B insert\_par

B intercept\_lua\_error

B intercept\_tex\_error

B kerning

B ligaturing

B linebreak\_filter

B make\_extensible

B mlist\_to\_hlist

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\_lua\_call

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
<b>adobename</b>	function
<b>bidi</b>	data table
<b>blockrange</b>	function
<b>blocks</b>	data table
<b>casemap</b>	table
<b>categories</b>	data table
<b>category</b>	function
<b>categorytags</b>	data table
<b>classifiers</b>	table
<b>collapsed</b>	data table
<b>contextname</b>	function
<b>csletters</b>	data table
<b>data</b>	data table
<b>decomposed</b>	data table
<b>description</b>	function
<b>descriptions</b>	data table
<b>detailltags</b>	data table
<b>directions</b>	table
<b>emoji</b>	table
F compact	
F known	
F resolve	
<b>emojized</b>	function
<b>encodes</b>	data table
<b>entities</b>	data table
<b>fallbacks</b>	data table
<b>filters</b>	data table
<b>fractions</b>	table

<b>fromnumber</b>	function
<b>fschars</b>	data table
<b>fscodes</b>	data table
<b>getrange</b>	function
<b>graphemes</b>	data table
<b>hangul</b>	data table
<b>indicgroups</b>	table
T above_mark	
T after_half	
T after_main	
T after_postscript	
T after_subscript	
T anudatta	
T before_half	
T before_main	
T before_postscript	
T before_subscript	
T below_mark	
T consonant	
T dependent_vowel	
T halant	
T independent_vowel	
T nukta	
T post_mark	
T pre_mark	
T ra	
T stress_tone_mark	
T twopart_mark	
T vowel_modifier	

<b>initialize</b>	function
<b>is_character</b>	data table
<b>is_command</b>	data table
<b>is_letter</b>	data table
<b>is_mark</b>	data table
<b>is_punctuation</b>	data table
<b>is_spacing</b>	data table
<b>is_symbol</b>	data table
<b>lcchars</b>	data table
<b>lccode</b>	function
<b>lccodes</b>	data table
<b>lettered</b>	function
<b>lhash</b>	data table
<b>linebreaks</b>	data table
<b>lower</b>	function
<b>mathlists</b>	data table
<b>mirrors</b>	table
<b>otfscripts</b>	data table
<b>private</b>	table
<b>ranges</b>	data table
<b>registerentities</b>	function
<b>remap_hangul_syllable</b>	function
<b>setactivecatcodes</b>	function
<b>setlettercatcodes</b>	function
<b>shape</b>	function
<b>shaped</b>	function
<b>shash</b>	data table

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



## chemistry (context)

<b>component</b>	function
<b>define</b>	function
<b>definitions</b>	data table
<b>format</b>	string
<b>inlinechemical</b>	function
<b>instance</b>	string

<b>method</b>	string
<b>molecule</b>	function
<b>moleculeparser</b>	userdata
<b>start</b>	function
<b>stop</b>	function
<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>A:es</b>	function
<b>A:ru</b>	function
<b>A:sl</b>	function
<b>AK</b>	function
<b>Alphabetic</b>	function
<b>Alphabetic:es</b>	function
<b>Alphabetic:ru</b>	function
<b>Alphabetic:sl</b>	function
<b>Character</b>	function
<b>Characters</b>	function
<b>I</b>	function
<b>KA</b>	function
<b>KR</b>	function
<b>R</b>	function
<b>RK</b>	function
<b>Romannumerals</b>	function
<b>Russiannumerals</b>	function
<b>Sloveniannumerals</b>	function
<b>Spanishnumerals</b>	function
<b>Word</b>	function
<b>Words</b>	function
<b>a</b>	function
<b>a:es</b>	function
<b>a:ru</b>	function
<b>a:sl</b>	function
<b>abjadnodotnumerals</b>	function
<b>abjadnumerals</b>	function
<b>alphabetic</b>	function

<b>alphabetic:es</b>	function
<b>alphabetic:ru</b>	function
<b>alphabetic:sl</b>	function
<b>character</b>	function
<b>characters</b>	function
<b>chineseallnumerals</b>	function
<b>chinesecapnumerals</b>	function
<b>chinesenumerals</b>	function
<b>chr</b>	function
<b>chrs</b>	function
<b>cn</b>	function
<b>cn-a</b>	function
<b>cn-c</b>	function
<b>convert</b>	function
<b>decimals</b>	function
<b>define</b>	function
<b>gregorian_to_hebrew</b>	function
<b>gregorian_to_jalali</b>	function
<b>hebrewnumerals</b>	function
<b>helpers</b>	table
<b>hexstringtonumber</b>	function
<b>i</b>	function
<b>isleapyear</b>	function
<b>jalali_to_gregorian</b>	function
<b>lhexnumber</b>	function
<b>lhexnumbers</b>	function
<b>leapyear</b>	function
<b>lower</b>	function
<b>max</b>	function

<b>maxchars</b>	function
<b>nicenumber</b>	function
<b>nofdays</b>	function
<b>number</b>	function
<b>numbers</b>	function
<b>octnumber</b>	function
<b>octstringtonumber</b>	function
<b>ordinal</b>	function
<b>r</b>	function
<b>rawcharacter</b>	function
<b>romannumerals</b>	function
<b>russiannumerals</b>	function
<b>sequences</b>	data table
<b>settime</b>	function
<b>sloveniannumerals</b>	function
<b>spaceddigits</b>	function

<b>spanishnumerals</b>	function
<b>texttime</b>	function
<b>toabjad</b>	function
<b>tochinese</b>	function
<b>tohebrew</b>	function
<b>toroman</b>	function
<b>totime</b>	function
<b>uchexnumber</b>	function
<b>uchexnumbers</b>	function
<b>upper</b>	function
<b>verbose</b>	table
D data	
F translate	
<b>weekday</b>	function
<b>word</b>	function
<b>words</b>	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
<b>files</b>	table
<b>functions</b>	table
<b>getargument</b>	function
<b>getfilename</b>	function
<b>options</b>	table

- T `commandline`
- D `environments`
- D `modes`
- D `modules`
- T `ctxfile`
- D `environments`

	D <code>modes</code>
	D <code>modules</code>
<b>setargument</b>	function
<b>setcommandline</b>	function
<b>setdefaultargument</b>	function
<b>setenvironments</b>	function
<b>setfilename</b>	function
<b>setfilenames</b>	function
<b>setmodes</b>	function
<b>setmodules</b>	function
<b>variables</b>	data table

documentdata (context)

**variable** function

# drivers (context)

**convert** function  
**converters** table  
    F engine  
    F lmtx  
**enable** function  
**gethpos** function  
**getpos** function  
**getrpos** function  
**getvpos** function  
**helpers** table  
    F tomatrix  
**install** function  
**instances** table  
    T default  
        T actions  
            F convert  
            F outputfilename  
    T flushers  
    S name  
T empty  
    T actions  
        F convert  
        F prepare  
    T flushers  
    S name  
T js  
    T actions  
        F cleanup  
        F convert

    F finalize  
    F initialize  
    F outputfilename  
    F prepare  
    F wrapup  
T flushers  
    F character  
    F rule  
    F simplerule  
    F specialrule  
    F updatefontstate  
    S name  
T json  
    T actions  
        F cleanup  
        F convert  
        F finalize  
        F initialize  
        F outputfilename  
        F prepare  
        F wrapup  
T flushers  
    F character  
    F rule  
    F simplerule  
    F specialrule  
    F updatefontstate  
    S name  
T lua

T actions  
   F cleanup  
   F convert  
   F finalize  
   F initialize  
   F outputfilename  
   F prepare  
   F wrapup  
 T flushers  
   F character  
   F rule  
   F simplerule  
   F specialrule  
   F updatefontstate  
 S name  
 T mps  
 T actions  
   F cleanup  
   F convert  
   F finalize  
   F initialize  
   F outputfilename  
   F prepare  
   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>badname</b>	function
<b>bases</b>	data table
<b>bitmapimage</b>	function
<b>boxnumber</b>	number
<b>cachepaths</b>	data table
<b>check</b>	function
<b>checkers</b>	data table
<b>converters</b>	data table
<b>current</b>	function
<b>defaultdepth</b>	number
<b>defaultheight</b>	number
<b>defaultsearch</b>	boolean
<b>defaultwidth</b>	number
<b>done</b>	function
<b>dummy</b>	function
<b>existsers</b>	data table
<b>exists</b>	function
<b>formats</b>	data table
<b>found</b>	data table
<b>get</b>	function
<b>getinfo</b>	function
<b>getpdfinfo</b>	function
<b>getrealpage</b>	function
<b>guess</b>	function
<b>guessfromstring</b>	function
<b>hash</b>	function
<b>identifiers</b>	data table
<b>identify</b>	function

<b>images</b>	table
F check	
F checksize	
F copy	
F create	
F embed	
T keys	
F print	
F scan	
F serialize	
T sizes	
B art	
B bleed	
B crop	
B media	
B none	
B trim	
F totable	
T types	
N jbig2	
N jp2	
N jpg	
N memstream	
N none	
N pdf	
N png	
N stream	
F wrap	
<b>include</b>	function

<b>includers</b>	data table
<b>initialize</b>	function
<b>loaded</b>	data table
<b>localpaths</b>	data table
<b>magics</b>	data table
<b>mergegoodies</b>	function
<b>nofmissing</b>	number
<b>nofprocessed</b>	number
<b>order</b>	data table
<b>paths</b>	data table
<b>patterns</b>	data table
<b>pop</b>	function
<b>preferquality</b>	boolean
<b>programs</b>	data table

<b>push</b>	function
<b>registerpattern</b>	function
<b>registerresource</b>	function
<b>registersuffix</b>	function
<b>remappers</b>	data table
<b>resources</b>	data table
<b>scale</b>	function
<b>set</b>	function
<b>setlookups</b>	function
<b>setmemstream</b>	function
<b>setorder</b>	function
<b>setpaths</b>	function
<b>suffixes</b>	data table
<b>used</b>	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>checkedpagefloat</b>	function
<b>collect</b>	function
<b>consult</b>	function
<b>flush</b>	function
<b>getvariable</b>	function
<b>hasstacked</b>	function

<b>nofstacked</b>	function
<b>pop</b>	function
<b>push</b>	function
<b>resave</b>	function
<b>save</b>	function
<b>stacked</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 calculatescale
- F checkedfeatures
- F checkedfilename
- F cleanuptable
- 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	D bothkerned
F patch	D leftkerned
T patches	D ligatures
F register	D rightkerned
F report	D texligatures
F register	F load
F report	T readers
T tfm	F getinfo
F apply	F loadfont
F patch	F loadshapes
T patches	F setfeatures
F register	B syncspace
F report	N version
F register	T otf
F report	F addfeature
N factor	F basemodeinitializer
T features	D cache
D afm	F collectlookups
D otf	T coverup
D tfm	T actions
F finalize	F alternate
B fixprotrusion	F chainposition
F getfeatureaction	F chainsubstitution
F getmathparameter	F kern
F getprivate	F ligature
T handlers	F multiple
T afm	F pair
B autoprefixed	F single
D cache	F substitution
D features	F register
F getkern	S stepkey
T helpdata	F dataset



F datasetpositionprocessor	F gsub_single
S defaultbasealternate	F trigger_space_kerns
S defaultnodealternate	T helpers
D features	F blockligatures
F featuresinitializer	F pardirstate
F featuresprocessor	F txtfirststate
F getactualtext	F load
F getalternate	F loadoutlinedata
F getgsub	F loadstreamdata
F getkern	F modeinitializer
F getmultiple	D mpscache
F getstreamhash	D pdfcache
F getsubstitution	F plugininitializer
T handlers	F pluginprocessor
F devanagari_remove_joiners	T plugins
F devanagari_reorder_matras	D pngcache
F devanagari_reorder_pre_base_reordering_consonants	B pngenabled
F devanagari_reorder_reph	T readers
F gpos_context	F addunicodetable
F gpos_contextchain	F avar
F gpos_cursive	F cbdt
F gpos_mark2base	F cblc
F gpos_mark2ligature	F cff
F gpos_mark2mark	F cff2
F gpos_pair	F cffcheck
F gpos_single	T cffencoder
F gsub_alternate	F checkhash
F gsub_context	F cmap
F gsub_contextchain	F colr
F gsub_ligature	F compact
F gsub_multiple	F cpal
F gsub_reversecontextchain	F ebdt

F eblc	T helpers
F ebsc	F axistofactors
F expand	F cleanname
F extend	F getaxisscale
F fvar	F getfactors
F gdef	F getscales
F getcomponents	F gotodatatable
F getinfo	F normalizedaxis
F glyf	T normalizedaxishash
F gpos	F readvariationdata
T gposhandlers	F reportskippedtable
F chainedcontext	F setvariabledata
F context	F hhea
F cursive	F hmtx
F extension	F hvar
F marktobase	F kern
F marktoligature	F loadfont
F marktomark	F loadshapes
F pair	F loca
F single	F math
F gsub	F maxp
T gsubhandlers	F mvar
F alternate	F name
F chainedcontext	F os/2
F context	F pack
F extension	F parsecharstrings
F ligature	F post
F multiple	F registerextender
F reversechainedcontextsingle	F rehash
F single	F sbix
F gvar	F stat
F head	T streamreader

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 writecardinal  
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  
F stripredundant  
F svg  
N tableversion  
F unifymissing  
F unpack

F vhea	F loadtfm
F vmtx	F loadvf
F vorg	F pktopdf
F vvar	F showpk
F woff2otf	F reencode
F registerpalette	F setfeatures
F registerplugin	N version
F reorderlookups	T vf
F scriptandlanguage	T combinations
F setdynamics	F combine
F setfeatures	T combiner
T statistics	D commands
D usedfeatures	D helpers
D svgcache	D math
B svgenabled	D predefined
T tables	N version
D baselines	D whatever
D features	F hashfeatures
D featuretypes	F hashinstance
D languages	T hashmethods
D scripts	F normal
N version	F virtual
T pfb	F initializefeatures
F loadvector	T keys
T tfm	T characters
D cache	T descriptions
D features	T parameters
N maxnestingdepth	S ascender
N maxnestingsize	S descender
T readers	S designsize
F loadpk	T expansion
F loadtfm	S auto

S shrink	S factor
S step	S hdelta
S stretch	S hfactor
S extendfactor	S vfactor
S factor	S wdelta
S hfactor	S width
S mathsize	S embedding
S mode	S encodingbytes
T protrusion	S filename
S auto	S finalized
S quad	S fontname
S scaledpoints	S format
S scriptpercentage	S fullname
S scriptscriptpercentage	S hasitalics
S size	S hasmath
S slantfactor	S mathitalics
S slantperpoint	S mode
T spacing	S name
S extra	S nostackmath
S shrink	S psname
S stretch	S textitalics
S width	S virtualized
S units	D loadedfonts
S vfactor	S namemode
S width	N noffontsloaded
S xheight	N nofsharedfonts
T properties	N nofsharedhashes
S autoitalicamount	N nofsharedvectors
S cidinfo	N privateoffset
T effect	D privateslots
S delta	F readanddefine
S effect	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  
F splitfontpattern  
F tochar

## infofont function

## iterators table

F characters  
F descriptions  
F glyphs

## loggers table

F add\_placeholders  
D category\_to\_placeholder  
F format  
F onetimemessage  
F register  
F reportdefinedfonts  
F reportusedfeatures

## mappings table

F addtounicode  
F fromunicode16  
F loadfile  
F loadline  
F makenameparser  
D overloads  
F reset



F tounicode  
F tounicode16  
F tounicode16sequence  
**metapost** table

F boundingbox  
F boxtomp  
F draw  
F fill  
F maxbounds  
F output  
F paths  
F widthline  
F zeroline

**mp** table  
D cache  
B inline  
N version

**names** data table

**nulldata** data table

**privateoffsets** table

B keepnames  
N mathbase  
N mathextrabase  
N textbase  
N textextrabase

**protrusions** data table

**readers** table

F afm  
F check\_lua  
F check\_tfm  
F lua  
F ofm

F opentype  
F otf  
F pfb  
D sequence  
F tfm  
F ttc  
F ttf  
F woff

**reserveid** function  
**select** table

D alternatives  
F bodyfont  
D data  
F default  
D defaults  
F definefallbackfamily  
F definefontfamily  
F definefontfamilypreset  
D extras  
F fallback  
D fallbacks  
F features  
F filefallback  
F fontdata  
F fontfallback  
F fontsynonym  
F goodies  
F mathfallback  
D methods  
D presets  
F registerfallback  
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

**linkedslists** data table

**pages** table

F setpagetransition

F setupcanvas

**references** table

F setclosedocument

F setclosepage

F setopendocument

F setopenpage

**renderings** data table

**soundclips** data table

## interfaces (context)

<b>addvalidkeys</b>	function
<b>arrays</b>	table
<b>cachedsetups</b>	data table
<b>cachesetup</b>	function
<b>cardinals</b>	table
<b>checkedspecification</b>	function
<b>complete</b>	data table
<b>constants</b>	data table
<b>corenamespaces</b>	data table
<b>currentinterface</b>	string
<b>currentresponse</b>	string
<b>definecommand</b>	function
<b>defined</b>	function
<b>doifelsemessage</b>	function
<b>elements</b>	data table
<b>floats</b>	table
<b>formats</b>	data table
<b>getcheckedparameters</b>	function
<b>getmessage</b>	function
<b>getnamespace</b>	function
<b>getsetupstring</b>	function
<b>hashedsetups</b>	data table
<b>implement</b>	function
<b>integers</b>	table
<b>interfacedcommand</b>	function
<b>interfaces</b>	table
<b>invalidkey</b>	function
<b>knownscanner</b>	function
<b>message</b>	function

<b>nameofscanner</b>	function
<b>namesofscanners</b>	table
<b>namespaces</b>	table
F define	
F list	
<b>numbers</b>	table
<b>registernamespace</b>	function
<b>registerscanner</b>	function
<b>scanners</b>	data table
<b>setconstant</b>	function
<b>setcount</b>	function
<b>setdimen</b>	function
<b>setelement</b>	function
<b>setformat</b>	function
<b>setmacro</b>	function
<b>setmessage</b>	function
<b>setmessages</b>	function
<b>settranslation</b>	function
<b>setupstrings</b>	data table
<b>setvalidkeys</b>	function
<b>setvariable</b>	function
<b>showmessage</b>	function
<b>storedscanners</b>	data table
<b>syntax</b>	data table
<b>tolist</b>	function
<b>translations</b>	data table
<b>usednamespaces</b>	data table
<b>variables</b>	data table
<b>writestatus</b>	function



## io (basic lua)

<b>ask</b>	function
<b>bytes</b>	function
<b>characters</b>	function
<b>close</b>	function
<b>copydata</b>	function
<b>exists</b>	function
<b>fileseparator</b>	string
<b>flush</b>	function
<b>input</b>	overloaded function
<b>lines</b>	overloaded function
<b>loadchunk</b>	function
<b>loaddata</b>	function
<b>loadlines</b>	function
<b>newreader</b>	function
<b>noflines</b>	function
<b>open</b>	overloaded function

<b>output</b>	overloaded function
<b>pathseparator</b>	string
<b>popen</b>	overloaded function
<b>read</b>	function
<b>readall</b>	function
<b>readnumber</b>	function
<b>readstring</b>	function
<b>savadata</b>	function
<b>size</b>	function
<b>stderr</b>	userdata
<b>stdin</b>	userdata
<b>stdout</b>	userdata
<b>tmpfile</b>	function
<b>type</b>	function
<b>write</b>	function

# job (context)

**comment** function

**datasets** table

D collected

F extend

F getdata

F setdata

D tobesaved

**disablesave** function

**embedded** table

D collected

D tobesaved

**fileobjreferences** table

D collected

D tobesaved

**files** table

D collected

F context

B forcerun

F run

D tobesaved

**getrandomseed** function

**initialize** function

**load** function

**loadother** function

**objects** table

D collected

F get

F number

F page

F save

F set

D tobesaved

**pack** boolean

**packversion** number

**pagestates** table

D collected

F countervalue

F extend

F realpage

F realpageorder

F setstate

D tobesaved

**parwrappers** table

D collected

D tobesaved

**passes** table

F check

D collected

F count

F define

F find

F first

F get

F getcollected

F getdata

F getfield

F gettobesaved

F inlist

F last  
F list  
F save  
F savetagged  
D tobesaved

**positions**                      table

F b\_column  
F b\_region  
F c  
D collected  
F column  
F columnofpos  
F copy  
F depth  
F e\_column  
F e\_region  
F enhance  
F extra  
F get  
F getfree  
F gethpos  
F getpos  
F getreserved  
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

**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

## language (basic tex)

<b>clean</b>	function
<b>clear_hyphenation</b>	function
<b>clear_patterns</b>	function
<b>current</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)

**associate** function  
**associated** data table  
**association** function  
**counters** data table  
**current** function  
**data** data table  
**decimals** data table  
**define** function  
**explicithyphen** function  
**flatten** function  
**frequencies** table

F averagecharwidth

F getdata

**getdata** function  
**getnumber** function  
**hjcounts** table  
**hyphenate** function  
**hyphenators** table

T dictionaries

D featuresets

F handler

T methods

F expanded

B none

F original

F tex

F traditional

F popmethod

F pushmethod

F setmethod

F setup

F showhyphenationtrace

T traditional

F definefeatures

F gettrace

F hyphenate

F injecthyphens

F installmethod

F lasttrace

F loadpatterns

F registerexception

F registerpattern

F setfeatures

**installed** function

**labels** table

F define

F split

**loadable** function

**loadwords** function

**logger** table

F report

**nofflattened** function

**numbers** data table

**postexhyphenchar** function

**posthyphenchar** function

**preexhyphenchar** function

**prehyphenchar** function

**registered** data table

<b>replacements</b>	table		D mapping
F add			B packslashes
F addlist			N righthyphenmin
F handler			F setcharacters
F set			<b>version</b> number
<b>serializeddiscretionary</b>	function		<b>visualizediscretionaries</b> function
<b>setexceptions</b>	function		<b>words</b> table
<b>setsynonym</b>	function		F check
<b>showdiscretionaries</b>	function		T data
<b>transliteration</b>	table		F disable
F define			F enable
F handler			T enablers
F set			B enables
<b>unload</b>	function		F found
<b>urls</b>	table		F load
D characters			T methods
N lefthyphenmin			N threshold

# layouts (context)

**status** table

F isleftpage

F leftorrightpageaction



## lfs (extra lua)

<b>attributes</b>	overloaded function
<b>chdir</b>	overloaded function
<b>currentdir</b>	function
<b>dir</b>	overloaded function
<b>isdir</b>	overloaded function
<b>isfile</b>	overloaded function
<b>isfound</b>	function
<b>isreadabledir</b>	function
<b>isreadablefile</b>	function
<b>iswriteabledir</b>	function

<b>iswriteablefile</b>	function
<b>link</b>	overloaded function
<b>mkdir</b>	overloaded function
<b>mkdirs</b>	function
<b>modification</b>	function
<b>readlink</b>	function
<b>rmdir</b>	overloaded function
<b>setexecutable</b>	function
<b>symlink</b>	function
<b>touch</b>	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>categories</b>	function
<b>direct</b>	function
<b>disable</b>	function
<b>enable</b>	function
<b>finalactions</b>	function
<b>flush</b>	function
<b>loggingerrors</b>	function
<b>messenger</b>	function
<b>new</b>	function
<b>newline</b>	function
<b>poptarget</b>	function
<b>private</b>	table
F enablepagetiming	
F getpagetiming	
<b>pushtarget</b>	function
<b>registerfinalactions</b>	function
<b>report</b>	function
<b>reporter</b>	function
<b>setformats</b>	function

<b>setformatters</b>	function
<b>setlogfile</b>	function
<b>setmessenger</b>	function
<b>setprocessor</b>	function
<b>settarget</b>	function
<b>settimedlog</b>	function
<b>settranslations</b>	function
<b>show</b>	function
<b>start_page_number</b>	function
<b>start_run</b>	function
<b>startererrorlogging</b>	function
<b>startfilelogging</b>	function
<b>status</b>	function
<b>stop_page_number</b>	function
<b>stoperrorlogging</b>	function
<b>stopfilelogging</b>	function
<b>subdirect</b>	function
<b>subreport</b>	function
<b>texerrormessage</b>	function
<b>writer</b>	function

## lpdf (context)

<b>action</b>	function
<b>adddocumentcolorspace</b>	function
<b>adddocumenttextgstate</b>	function
<b>adddocumentpattern</b>	function
<b>adddocumentshade</b>	function
<b>addtocatalog</b>	function
<b>addtoinfo</b>	function
<b>addtonames</b>	function
<b>addtopageattributes</b>	function
<b>addtopageresources</b>	function
<b>addtopagesattributes</b>	function
<b>addxmpinfo</b>	function
<b>annotationspecification</b>	function
<b>array</b>	function
<b>attachmentsymbols</b>	function
<b>boolean</b>	function
<b>border</b>	function
<b>checkedkey</b>	function
<b>checkedvalue</b>	function
<b>circularshade</b>	function
<b>cmkcode</b>	function
<b>collectedresources</b>	function
<b>color</b>	function
<b>colorspace</b>	function
<b>colorspaceconstants</b>	data table
<b>colorspec</b>	function
<b>colorvalue</b>	function
<b>colorvalues</b>	function
<b>commentsymbols</b>	function

<b>compresslevel</b>	function
<b>constant</b>	function
<b>copyarray</b>	function
<b>copyboolean</b>	function
<b>copyconstant</b>	function
<b>copydictionary</b>	function
<b>copyfloat</b>	function
<b>copyinteger</b>	function
<b>copynumber</b>	function
<b>copystring</b>	function
<b>copyunicode</b>	function
<b>delayedobject</b>	function
<b>destinationspecification</b>	function
<b>dictionary</b>	function
<b>docstring</b>	function
<b>epdf</b>	table

F analyzefonts  
F contenttotext  
F expanded  
F getpagecontent  
F getstructure  
T image  
F close  
F copy  
F new  
F open  
F query  
F load  
F parsecontent

- F plugin
- T resolvers
  - F destinations
  - F embeddedfiles
  - F javascripts
  - F layers
  - F pages
  - F structure
  - F widgets
- F stripcontent
- F unload

**escaped** function

**finalizeddocument** function

**finalizefonts** function

**finalizepage** function

**finishtransparencycode** function

**flags** table

- T annotations
  - N AutoView
  - N Hidden
  - N Invisible
  - N Locked
  - N LockedContents
  - N NoRotate
  - N NoView
  - N NoZoom
- N Print
- N Printable
- N ReadOnly
- N ToggleNoView
- N auto
- N hidden

- N printable
- T widgets
  - N Comb
  - N CommitOnSelChange
  - N DoNotScroll
  - N DoNotSpellCheck
  - N Edit
  - N FileSelect
  - N MultiLine
  - N NoExport
  - N NoToggleToOff
  - N Password
  - N PopUp
  - N PushButton
  - N Radio
  - N RadiosInUnison
  - N ReadOnly
  - N Required
  - N RichText
  - N Sort
  - N file
  - N fixed
  - N nocheck
  - N protected
  - N readonly
  - N required
  - N sorted
  - N unavailable

**flushfonts** function

**flushgroup** function

**flushobject** function

**flushstreamfileobject** function

<b>flushstreamobject</b>	function
<b>formats</b>	data table
<b>frombytes</b>	function
<b>fromeight</b>	function
<b>frompdfdoc</b>	function
<b>fromsixteen</b>	function
<b>getcatalag</b>	function
<b>getcompression</b>	function
<b>getfontname</b>	function
<b>getfontobjnumber</b>	function
<b>getinfo</b>	function
<b>getmapentry</b>	function
<b>getmetadata</b>	function
<b>getnofpages</b>	function
<b>getpageproperties</b>	function
<b>getpagetags</b>	function
<b>getversion</b>	function
<b>getxformname</b>	function
<b>graycode</b>	function
<b>id</b>	function
<b>immediateobj</b>	function
<b>includechar</b>	function
<b>includecharlist</b>	function
<b>includefont</b>	function
<b>includeimage</b>	function
<b>injectors</b>	table
F bitmap	
F jp2	
F jpg	
F png	
<b>injectxmpinfo</b>	function
<b>insertxmpinfo</b>	function

<b>layerreference</b>	function
<b>limited</b>	function
<b>linearshade</b>	function
<b>literal</b>	function
<b>majorversion</b>	function
<b>makenametree</b>	function
<b>minorversion</b>	function
<b>nofpages</b>	function
<b>null</b>	function
<b>number</b>	function
<b>obj</b>	function
<b>objectcompresslevel</b>	function
<b>pagereference</b>	function
<b>patternstream</b>	function
<b>pdfcolor</b>	function
<b>pdftimestamp</b>	function
<b>permitdetail</b>	function
<b>print</b>	function
<b>procset</b>	function
<b>protectresources</b>	boolean
<b>rectangle</b>	function
<b>reference</b>	function
<b>registerannotation</b>	function
<b>registerdestination</b>	function
<b>registerdocumentfinalizer</b>	function
<b>registerfont</b>	function
<b>registerpagefinalizer</b>	function
<b>registerpattern</b>	function
<b>reserveobject</b>	function
<b>rgbcode</b>	function
<b>rotationcm</b>	function
<b>setcompression</b>	function

<b>setdates</b>	function
<b>setmapfile</b>	function
<b>setmapline</b>	function
<b>setomitcharset</b>	function
<b>setomitcidset</b>	function
<b>setpageorder</b>	function
<b>setpagetag</b>	function
<b>setsuppressoptionalinfo</b>	function
<b>settime</b>	function
<b>settrailerid</b>	function
<b>setversion</b>	function
<b>shareobject</b>	function
<b>shareobjectreference</b>	function
<b>spotcode</b>	function

<b>stream</b>	function
<b>string</b>	function
<b>toeight</b>	function
<b>topdfdoc</b>	function
<b>tosixteen</b>	function
<b>transparency</b>	function
<b>transparencycode</b>	function
<b>transparencygroups</b>	table
B none	
<b>transparencyvalue</b>	function
<b>unicode</b>	function
<b>usedcharacters</b>	table
<b>verbose</b>	function
<b>vfimage</b>	function



## lpeg (basic lua)

<b>B</b>	function
<b>C</b>	function
<b>Carg</b>	function
<b>Cb</b>	function
<b>Cc</b>	function
<b>Cf</b>	function
<b>Cg</b>	function
<b>Cmt</b>	function
<b>Cp</b>	function
<b>Cs</b>	function
<b>Ct</b>	function
<b>P</b>	function
<b>R</b>	function
<b>S</b>	function
<b>UP</b>	function
<b>UR</b>	function
<b>US</b>	function
<b>V</b>	function
<b>afterprefix</b>	function
<b>anywhere</b>	function
<b>append</b>	function
<b>balancer</b>	function
<b>beforesuffix</b>	function
<b>checkedsplit</b>	function
<b>containsws</b>	function
<b>counter</b>	function
<b>endstripper</b>	function
<b>finder</b>	function

<b>firstofsplit</b>	function
<b>frontstripper</b>	function
<b>instringchecker</b>	function
<b>is_lpeg</b>	function
<b>keeper</b>	function
<b>locale</b>	function
<b>match</b>	function
<b>oneof</b>	function
<b>patterns</b>	data table
<b>pcode</b>	function
<b>print</b>	function
<b>ptree</b>	function
<b>replacer</b>	function
<b>secondofsplit</b>	function
<b>setmaxstack</b>	function
<b>setutfcasers</b>	function
<b>split</b>	function
<b>splitat</b>	function
<b>splitter</b>	function
<b>stripper</b>	function
<b>times</b>	function
<b>tsplitat</b>	function
<b>tsplitter</b>	function
<b>type</b>	function
<b>utfchartabletopattern</b>	function
<b>utfreplacer</b>	function
<b>version</b>	function

## lua (basic tex)

<b>bytecode</b>	table
<b>bytedata</b>	data table
<b>bytedone</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)

**abort** function  
**cleanup** function  
**cleanuptempfiles** function  
**currentfile** function  
**registerdumpactions** function  
**registerpageactions** function  
**registerstartactions** function  
**registerstopactions** function  
**registertempfile** function  
**starttime** number  
**synctex** table

F blockfilename  
F collect  
F disable  
F enable

F finish  
F pause  
F popline  
F pushline  
F registerdisabler  
F registerenabler  
F resetfilename  
F resume  
F setfilename  
F setup  
F start  
F stop  
F wrapup

**wrapup**

function

## lxml (context)

<b>addindex</b>	function	<b>doifelseempty</b>	function
<b>all</b>	function	<b>doifelsetext</b>	function
<b>applyfunction</b>	function	<b>doifempty</b>	function
<b>applyselectors</b>	function	<b>doifnot</b>	function
<b>att</b>	function	<b>doifnotempty</b>	function
<b>attribute</b>	function	<b>doifnottext</b>	function
<b>badinclusions</b>	function	<b>doiftext</b>	function
<b>chainattribute</b>	function	<b>element</b>	function
<b>checkindex</b>	function	<b>elements</b>	function
<b>collected</b>	function	<b>entities</b>	data table
<b>command</b>	function	<b>filter</b>	function
<b>concat</b>	function	<b>filterlist</b>	function
<b>concatrange</b>	function	<b>first</b>	function
<b>content</b>	function	<b>flush</b>	function
<b>context</b>	function	<b>flushlinewise</b>	function
<b>convert</b>	function	<b>flushsetups</b>	function
<b>count</b>	function	<b>flushspacewise</b>	function
<b>delete</b>	function	<b>get_id</b>	function
<b>depth</b>	function	<b>getid</b>	function
<b>direct</b>	function	<b>getindex</b>	function
<b>directives</b>	table	<b>id</b>	function
F after		<b>idsplitter</b>	userdata
F before		<b>include</b>	function
F handle		<b>inclusion</b>	function
F load		<b>inclusions</b>	function
F setup		<b>index</b>	function
<b>displayverbatim</b>	function	<b>inlineverbatim</b>	function
<b>doif</b>	function	<b>installsetup</b>	function
<b>doifelse</b>	function	<b>last</b>	function

<b>lastatt</b>	function
<b>lastmatch</b>	function
<b>lastpar</b>	function
<b>load</b>	function
<b>loadbuffer</b>	function
<b>loaddata</b>	function
<b>loaded</b>	table
<b>main</b>	function
<b>match</b>	function
<b>name</b>	function
<b>namespace</b>	function
<b>nonspace</b>	function
<b>par</b>	function
<b>param</b>	function
<b>parameter</b>	function
<b>path</b>	function
<b>popmatch</b>	function
<b>pos</b>	function
<b>position</b>	function
<b>pure</b>	function
<b>pushmatch</b>	function
<b>raw</b>	function
<b>rawroot</b>	function
<b>rawtex</b>	function
<b>refatt</b>	function
<b>register</b>	function
<b>registerentity</b>	function
<b>removesetup</b>	function
<b>replace</b>	function
<b>resetcdata</b>	function
<b>resetsetups</b>	function
<b>resolvedentity</b>	function

<b>root</b>	function
<b>save</b>	function
<b>serialize</b>	function
<b>setaction</b>	function
<b>setatt</b>	function
<b>setattribute</b>	function
<b>setcdata</b>	function
<b>setcommandtonone</b>	function
<b>setcommandtotext</b>	function
<b>setpar</b>	function
<b>setparam</b>	function
<b>setparameter</b>	function
<b>setsetup</b>	function
<b>snippet</b>	function
<b>sorters</b>	table
F add	
F compare	
F flush	
F reset	
F show	
F sort	
<b>splitid</b>	function
<b>startraw</b>	function
<b>startunesescaped</b>	function
<b>stopraw</b>	function
<b>stopunesescaped</b>	function
<b>store</b>	function
<b>strip</b>	function
<b>stripped</b>	function
<b>tag</b>	function
<b>text</b>	function
<b>tobuffer</b>	function

<b>tofile</b>	function	<b>verbatim</b>	function
<b>toparameters</b>	function	<b>withinindex</b>	function
<b>toverbatim</b>	function	<b>xmltexhandler</b>	data table

## math (basic lua)

<b>abs</b>	function
<b>acos</b>	function
<b>asin</b>	function
<b>atan</b>	function
<b>atan2</b>	function
<b>ceil</b>	function
<b>ceiling</b>	function
<b>cos</b>	function
<b>cosd</b>	function
<b>cosh</b>	function
<b>deg</b>	function
<b>div</b>	function
<b>even</b>	function
<b>exp</b>	function
<b>floor</b>	function
<b>fmod</b>	function
<b>huge</b>	number
<b>initialseed</b>	number
<b>ldexp</b>	function
<b>log</b>	function
<b>log10</b>	function
<b>max</b>	function
<b>maxinteger</b>	number

<b>min</b>	function
<b>mininteger</b>	number
<b>mod</b>	function
<b>modf</b>	function
<b>odd</b>	function
<b>pi</b>	number
<b>pow</b>	function
<b>rad</b>	function
<b>random</b>	overloaded function
<b>randomseed</b>	function
<b>round</b>	function
<b>setrandomseed</b>	function
<b>sin</b>	function
<b>sind</b>	function
<b>sinh</b>	function
<b>sqrt</b>	function
<b>tan</b>	function
<b>tand</b>	function
<b>tanh</b>	function
<b>tointeger</b>	function
<b>type</b>	function
<b>ult</b>	function

# mathematics (context)

**addfallbacks** function  
**alphabets** data table  
**alternatives** data table  
**big** function  
**boldmap** data table  
**categories** table

D functions

**charactersets** data table  
**checkaccentbaseheight** function  
**checkprivateparameters** function  
**classes** data table  
**codes** data table  
**define** function  
**dimensions** function  
**domains** table  
**extensiblecode** function  
**extensibles** data table  
**extrabase** number  
**extras** table

F add

F copy

**fallbacks** table

F apply

F install

**fallbackstyleattr** function  
**families** data table  
**finishfallbacks** function  
**gaps** data table  
**getboth** function

**getdomain** function  
**getitalics** function  
**getridofprime** function  
**getstyle** function  
**horizontalcode** function  
**initializeparameters** function  
**makefont** function  
**mapremap** data table  
**overloadaddimensions** function  
**overloadparameters** function  
**privatebase** number  
**registerdomain** function  
**registerfallbackid** function  
**remapalphabets** function  
**renderings** table

D mappings

D numbers

D sets

**renderset** function  
**resetattributes** function  
**resetitalics** function  
**resolvefallbacks** function  
**scaleparameters** function  
**setdomain** function  
**setitalics** function  
**setridofprime** function  
**sets** data table  
**styles** data table  
**syncboth** function



<b>syncname</b>	function	<b>utfmathaccent</b>	function
<b>syncstyle</b>	function	<b>utfmathclass</b>	function
<b>toname</b>	function	<b>utfmathcommand</b>	function
<b>tostyle</b>	function	<b>utfmathfiller</b>	function
<b>tweakaftercopyingfont</b>	function	<b>utfmathstretch</b>	function
<b>tweakbeforecopyingfont</b>	function	<b>virtualize</b>	function
<b>tweaks</b>	table	<b>virtualized</b>	data table

## md5 (extra lua)

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

**sum**     function  
**sumHEXA** function  
**sumhexa** function

# metapost (context)

<b>checkformat</b>	function	N interim
<b>cm</b>	function	N internal
<b>codes</b>	table	N iteration
N addto		N join
N ampersand		N leftbrace
N and		N leftbracket
N assignment		N leftdelimiter
N atleast		N let
N begingroup		N macrospecial
N btex		N maketext
N capsule		N message
N colon		N mode
N comma		N newinternal
N controls		N nullary
N curl		N numeric
N cycle		N of
N declare		N ofbinary
N def		N outertag
N definedmacro		N parametertype
N delimiters		N plus_or_minus
N endgroup		N primarybinary
N equals		N primarydef
N etex		N randomseed
N everyjob		N relax
N exitif		N repeat_loop
N expandafter		N rightbrace
N fi_or_else		N rightbracket
N if		N rightdelimiter
N input		N runscript

N save		<b>currentmpx</b>	function
N scantokens		<b>currentmpxstatus</b>	function
N scope		<b>defaultformat</b>	string
N secondarybinary		<b>defaultinstance</b>	string
N secondarydef		<b>defaultmethod</b>	string
N semicolon		<b>directrun</b>	function
N setbounds		<b>escaped</b>	function
N shipout		<b>exectime</b>	table
N show		<b>extensiondata</b>	data table
N skip		<b>filterclippath</b>	function
N slash		<b>flush</b>	function
N special		<b>flushers</b>	table
N step		T pdf	
N stop		F comment	
N str		F flushfigure	
N string		F startfigure	
N tag		F stopfigure	
N tension		F textfigure	
N tertiarybinary		<b>flushliteral</b>	function
N tertiarydef		<b>flushnormalpath</b>	function
N thingstoadd		<b>flushreset</b>	function
N to		<b>fonts</b>	table
N unary		F define	
N undefinedcs		T flusher	
N until		F flushfigure	
N void		F startfigure	
N with		F stopfigure	
N within		N instances	
N write		F process	
<b>colorinitializer</b>	function	<b>format_number</b>	function
<b>comment</b>	function	<b>format_string</b>	function
<b>convert</b>	function	<b>formatnumber</b>	function

<b>getclippath</b>	function
<b>getextensions</b>	function
<b>getextradata</b>	function
<b>getjobdata</b>	function
<b>getparameter</b>	function
<b>getparameterset</b>	function
<b>getstatistics</b>	function
<b>gettext</b>	function
<b>graphic</b>	function
<b>graphic_base_pass</b>	function
<b>includesvgbuffer</b>	function
<b>includesvgfile</b>	function
<b>installplugin</b>	function
<b>isobject</b>	function
<b>lastlog</b>	string
<b>load</b>	function
<b>maketext</b>	function
<b>metafun</b>	table
F interpolate	
F topath	
<b>mptopdf</b>	table
F convertmptopdf	
N nofconverted	
<b>n</b>	number
<b>nofruns</b>	number
<b>nofscriptruns</b>	function
<b>nvformat</b>	function
<b>pdfliterals</b>	function
<b>pluginactions</b>	function
<b>popformat</b>	function
<b>popscriptrunner</b>	function
<b>popvariable</b>	function

<b>popvariables</b>	function
<b>preparetexttsdata</b>	function
<b>process</b>	function
<b>processing</b>	function
<b>processplugins</b>	function
<b>processspecial</b>	function
<b>properties</b>	table
<b>pushformat</b>	function
<b>pushscriptrunner</b>	function
<b>pushvariable</b>	function
<b>pushvariables</b>	function
<b>reducetogray</b>	boolean
<b>registerscript</b>	function
<b>remappedtext</b>	function
<b>remaptext</b>	function
<b>reporterror</b>	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 vacuous

<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)

<code>_get_count_</code>	function	<code>F print</code>	
<code>_get_dimen_</code>	function	<code>F quadruple</code>	
<code>_get_macro_</code>	function	<code>F quadruplepoints</code>	
<code>_get_toks_</code>	function	<code>F quoted</code>	
<code>_set_count_</code>	function	<code>F size</code>	
<code>_set_dimen_</code>	function	<code>F string</code>	
<code>_set_macro_</code>	function	<code>F transform</code>	
<code>_set_toks_</code>	function	<code>F triplet</code>	
<code>autoinject</code>	function	<code>F tripletpoints</code>	
<code>aux</code>	table	<code>F vprint</code>	
<code>F boolean</code>		<b>boolean</b>	function
<code>F color</code>		<b>cleaned</b>	function
<code>F direct</code>		<b>color</b>	function
<code>F direct1</code>		<b>dataset</b>	function
<code>F direct2</code>		<b>datasets</b>	function
<code>F direct3</code>		<code>F load</code>	
<code>F direct4</code>		<b>dimension</b>	function
<code>F draw</code>		<b>direct</b>	function
<code>F fill</code>		<b>direct1</b>	function
<code>F flush</code>		<b>direct2</b>	function
<code>F fprintf</code>		<b>direct3</b>	function
<code>F integer</code>		<b>direct4</b>	function
<code>F number</code>		<b>disposehash</b>	function
<code>F numeric</code>		<b>draw</b>	function
<code>F pair</code>		<b>fill</b>	function
<code>F pairpoints</code>		<b>flatten</b>	function
<code>F path</code>		<b>flush</b>	function
<code>F pathpoints</code>		<b>format</b>	function
<code>F points</code>		<b>formatted</b>	function



<b>fprint</b>	function	<b>lmt_contours_edge_get_cell</b>	function
<b>fromhash</b>	function	<b>lmt_contours_edge_paths</b>	function
<b>get</b>	table	<b>lmt_contours_edge_set</b>	function
<b>getcount</b>	function	<b>lmt_contours_edge_set_by_band</b>	function
<b>getdimen</b>	function	<b>lmt_contours_edge_set_by_cell</b>	function
<b>getmacro</b>	function	<b>lmt_contours_format</b>	function
<b>gettoks</b>	function	<b>lmt_contours_function</b>	function
<b>graphformat</b>	function	<b>lmt_contours_maxmean</b>	function
<b>inhash</b>	function	<b>lmt_contours_maxz</b>	function
<b>inject</b>	function	<b>lmt_contours_minmean</b>	function
F boolean		<b>lmt_contours_minz</b>	function
F cmykcolor		<b>lmt_contours_nofvalues</b>	function
F color		<b>lmt_contours_nx</b>	function
F integer		<b>lmt_contours_ny</b>	function
F number		<b>lmt_contours_range</b>	function
F numeric		<b>lmt_contours_shade_paths</b>	function
F pair		<b>lmt_contours_shade_set</b>	function
F path		<b>lmt_contours_shape_paths</b>	function
F string		<b>lmt_contours_start</b>	function
F transform		<b>lmt_contours_stop</b>	function
F whatever		<b>lmt_contours_value</b>	function
<b>integer</b>	function	<b>lmt_contours_xrange</b>	function
<b>isarray</b>	function	<b>lmt_contours_yrange</b>	function
<b>isobject</b>	function	<b>lmt_do_remaptext</b>	function
<b>lmt_color_functions</b>	table	<b>lmt_function_x</b>	function
F shade		<b>lmt_mesh_set</b>	function
F step		<b>lmt_mesh_update</b>	function
<b>lmt_contours_bitmap_get</b>	function	<b>lmt_poisson_generate</b>	function
<b>lmt_contours_bitmap_set</b>	function	<b>lmt_register_glyph</b>	function
<b>lmt_contours_cleanup</b>	function	<b>lmt_register_glyphs</b>	function
<b>lmt_contours_color</b>	function	<b>lmt_surface_do</b>	function
<b>lmt_contours_edge_get_band</b>	function	<b>lmt_svg_include</b>	function

<b>mf_blob_add</b>	function
<b>mf_blob_dimensions</b>	function
<b>mf_blob_index</b>	function
<b>mf_blob_new</b>	function
<b>mf_blob_raw_content</b>	function
<b>mf_blob_raw_dimensions</b>	function
<b>mf_blob_raw_reset</b>	function
<b>mf_blob_raw_toutf</b>	function
<b>mf_blob_raw_wipe</b>	function
<b>mf_blob_size</b>	function
<b>mf_blob_width</b>	function
<b>mf_external_figure</b>	function
<b>mf_finish_saving_data</b>	function
<b>mf_formatted_text</b>	function
<b>mf_get_outline_text</b>	function
<b>mf_graphic_text</b>	function
<b>mf_inject_blob</b>	function
<b>mf_made_text</b>	function
<b>mf_map_move</b>	function
<b>mf_map_text</b>	function
<b>mf_named_color</b>	function
<b>mf_outline_text</b>	function
<b>mf_save_data</b>	function
<b>mf_script_index</b>	function
<b>mf_some_text</b>	function
<b>mf_start_saving_data</b>	function
<b>mf_stop_saving_data</b>	function
<b>mf_tb_dimensions</b>	function
<b>mf_tt_dimensions</b>	function
<b>mf_tt_initialize</b>	function
<b>mode</b>	function
<b>n</b>	function

<b>newhash</b>	function
<b>number</b>	function
<b>numeric</b>	function
<b>pair</b>	function
<b>pairpoints</b>	function
<b>path</b>	function
<b>pathpoints</b>	function
<b>points</b>	function
<b>positionanchor</b>	function
<b>positionbox</b>	function
<b>positioncurve</b>	function
<b>positionpage</b>	function
<b>positionpath</b>	function
<b>positionpxy</b>	function
<b>positionregion</b>	function
<b>positionwhd</b>	function
<b>positionxy</b>	function
<b>prefix</b>	function
<b>print</b>	function
<b>processingmode</b>	function
<b>quadruple</b>	function
<b>quadruplepoints</b>	function
<b>quoted</b>	function
<b>report</b>	function
<b>scan</b>	table
<b>F boolean</b>	
<b>F cmykcolor</b>	
<b>F color</b>	
<b>F expression</b>	
<b>F integer</b>	
<b>F next</b>	
<b>F number</b>	

F numeric		<b>solve</b>	function
F pair		<b>string</b>	function
F path		<b>systemmode</b>	function
F pen		<b>texstr</b>	function
F string		<b>texttextanchor</b>	function
F symbol		<b>texvar</b>	function
F token		<b>tohash</b>	function
F transform		<b>transform</b>	function
<b>set</b>	table	<b>triplet</b>	function
<b>setcount</b>	function	<b>tripletpoints</b>	function
<b>setdimen</b>	function	<b>utflen</b>	function
<b>setmacro</b>	function	<b>utfsub</b>	function
<b>settoks</b>	function	<b>vprint</b>	function
<b>size</b>	function		

## mplib (extra tex)

<b>execute</b>	function
<b>finder</b>	function
<b>finders</b>	table
F file	
F mpstemplate	
<b>finish</b>	function
<b>getcallbackstate</b>	function
<b>getcodes</b>	function
<b>getfields</b>	function
<b>getstates</b>	function
<b>getstatistics</b>	function
<b>getstatus</b>	function
<b>gettype</b>	function
<b>gettypes</b>	function
<b>inject_boolean</b>	function
<b>inject_cmykcolor</b>	function
<b>inject_color</b>	function
<b>inject_integer</b>	function
<b>inject_number</b>	function
<b>inject_numeric</b>	function
<b>inject_pair</b>	function
<b>inject_path</b>	function
<b>inject_string</b>	function

<b>inject_transform</b>	function
<b>inject_whatever</b>	function
<b>new</b>	overloaded function
<b>pen_info</b>	function
<b>realtime logging</b>	boolean
<b>scan_boolean</b>	function
<b>scan_cmykcolor</b>	function
<b>scan_color</b>	function
<b>scan_expression</b>	function
<b>scan_integer</b>	function
<b>scan_next</b>	function
<b>scan_number</b>	function
<b>scan_numeric</b>	function
<b>scan_pair</b>	function
<b>scan_path</b>	function
<b>scan_pen</b>	function
<b>scan_string</b>	function
<b>scan_symbol</b>	function
<b>scan_token</b>	function
<b>scan_transform</b>	function
<b>solve_path</b>	function
<b>version</b>	function

# noads (context)

## handlers table

- F align
- F alternates
- F autofences
- F classes
- F collapse
- F domains
- F families
- F fixscripts
- F italics
- F kernpairs
- F makeup
- F relocate
- F render

- F resize
- F showtree
- F tags
- F unscript
- F unstack
- F variants

**process** function

**processnested** function

**processors** table

- F mlist\_to\_hlist
- T unscript
- T unstack

**processouter** function

## node (basic tex)

<b>check_discretionaries</b>	function	F get_properties_table
<b>check_discretionary</b>	function	F get_synctex_fields
<b>copy</b>	function	F getattributelist
<b>copy_list</b>	function	F getboth
<b>count</b>	function	F getbox
<b>current_attributes</b>	function	F getchar
<b>dimensions</b>	function	F getdata
<b>direct</b>	table	F getdepth
F check_discretionaries		F getdirection
F check_discretionary		F getdisc
F copy		F getexpansion
F copy_list		F getfam
F copy_only		F getfield
F count		F getfont
F current_attributes		F getglue
F dimensions		F getglyphdata
F effective_glue		F getglyphdimensions
F end_of_math		F getheight
F exchange		F getid
F find_attribute		F getindex
F find_attribute_range		F getkern
F find_node		F getkerndimension
F first_glyph		F getlanguage
F flatten_discretionaries		F getleader
F flush_list		F getlist
F flush_node		F getnext
F free		F getnormalizedline
F get_attribute		F getnucleus
F get_attributes		F getoffsets

F getoptions  
F getorientation  
F getparstate  
F getpenalty  
F getpost  
F getpre  
F getprev  
F getproperty  
F getreplace  
F getscript  
F getshift  
F getstate  
F getsub  
F getsubpre  
F getsubtype  
F getsup  
F getsuppre  
F gettotal  
F getwhd  
F getwidth  
F has\_attribute  
F has\_dimensions  
F has\_field  
F has\_glyph  
F has\_glyph\_option  
F hpack  
F hyphenating  
F ignore\_math\_skip  
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 protect\_glyph  
F protect\_glyphs  
F protrusion\_skippable  
F rangedimensions  
F remove  
F reverse  
F set\_attribute  
F set\_attributes  
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 setindex  
F setkern  
F setlanguage  
F setleader  
F setlink  
F setlist  
F setnext  
F setnucleus  
F setoffsets  
F setoptions  
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 settotal

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\_content  
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

<b>effective_glue</b>	function
<b>end_of_math</b>	function
<b>family_font</b>	function
<b>fields</b>	function
<b>find_attribute</b>	function
<b>first_glyph</b>	function
<b>flatten_discretionaries</b>	function
<b>flush_list</b>	function



<b>flush_node</b>	function
<b>free</b>	function
<b>get_attribute</b>	function
<b>get_glue</b>	function
<b>get_properties_table</b>	function
<b>getfield</b>	function
<b>getproperty</b>	function
<b>has_attribute</b>	function
<b>has_field</b>	function
<b>has_glyph</b>	function
<b>hpack</b>	function
<b>hyphenating</b>	function
<b>id</b>	function
<b>insert_after</b>	function
<b>insert_before</b>	function
<b>instock</b>	function
<b>inuse</b>	function
<b>is_node</b>	function
<b>is_zero_glue</b>	function
<b>kerning</b>	function
<b>last_node</b>	function
<b>length</b>	function
<b>ligaturing</b>	function
<b>make_extensible</b>	function
<b>mlist_to_hlist</b>	function
<b>new</b>	function
<b>optimize_unset_attribute</b>	function
<b>protect_glyph</b>	function

<b>protect_glyphs</b>	function
<b>protrusion_skippable</b>	function
<b>rangedimensions</b>	function
<b>remove</b>	function
<b>set_attribute</b>	function
<b>set_glue</b>	function
<b>setfield</b>	function
<b>setproperty</b>	function
<b>slide</b>	function
<b>subtypes</b>	function
<b>tail</b>	function
<b>tostring</b>	function
<b>traverse</b>	function
<b>traverse_char</b>	function
<b>traverse_glyph</b>	function
<b>traverse_id</b>	function
<b>traverse_list</b>	function
<b>type</b>	function
<b>types</b>	function
<b>unprotect_glyph</b>	function
<b>unprotect_glyphs</b>	function
<b>unset_attribute</b>	function
<b>usedlist</b>	function
<b>uses_font</b>	function
<b>values</b>	function
<b>vpack</b>	function
<b>write</b>	function

## nodes (context)

**accentcodes** data table  
**aligned** function  
**append** function  
**apply** function  
**applyvisuals** function  
**astable** function  
**basepoints** function  
**boundarycodes** data table  
**boxes** table

F dimensions  
F direct  
F found  
F reset  
F restore  
F save  
F savenode

**builders** table

F buildpage\_filter  
F vpack\_filter

**check\_discretionaries** function  
**concat** function  
**copy** function  
**copy\_list** function  
**copy\_node** function  
**count** function  
**countall** function  
**current\_attributes** function  
**delete** function  
**destinations** table

N attribute  
T done  
F handler  
T stack

**dimensions** function  
**dircodes** data table  
**directioncodes** data table  
**directionvalues** data table  
**dirvalues** data table  
**disccodes** data table  
**discretionarycodes** data table  
**effective\_glue** function  
**end\_of\_math** function  
**fencecodes** data table  
**fields** function  
**fieldtypes** table  
**fillcodes** data table  
**fillvalues** data table  
**find\_attribute** function  
**first\_glyph** function  
**firstcharacter** function  
**firstcharinbox** function  
**firstdirinbox** function  
**firstglyph** function  
**flatten\_discretionaries** function  
**flush** function  
**flush\_list** function  
**flush\_node** function  
**free** function

<b>fullhpack</b>	function
<b>getattr</b>	function
<b>getattribute</b>	function
<b>getboth</b>	function
<b>getbox</b>	function
<b>getchar</b>	function
<b>getfield</b>	function
<b>getfont</b>	function
<b>getid</b>	function
<b>getleader</b>	function
<b>getlist</b>	function
<b>getnext</b>	function
<b>getprev</b>	function
<b>getsubtype</b>	function
<b>gluecodes</b>	data table
<b>glyphcodes</b>	data table
<b>handlers</b>	table

- F accessibility
- F backgrounds
- F backgroundspage
- F backgroundsvbox
- F characters
- F checkglyphs
- F checkparcounter
- F cleanupbox
- F cleanuppage
- F export
- F finalizebox
- F flatten
- F flattenline
- F migrate
- F protectglyphs

F stripping	
F textbackgrounds	
F unprotectglyphs	
<b>has_attribute</b>	function
<b>has_field</b>	function
<b>has_glyph</b>	function
<b>hpack</b>	function
<b>hyphenating</b>	function
<b>idsandsubtypes</b>	function
<b>idstostring</b>	function
<b>injections</b>	table
F copy	
F getligaindex	
F getthreshold	
F handler	
F installgetspaceboth	
F installnewkern	
F isspace	
F keepcounts	
F reset	
F resetcounts	
F setcursive	
F setkern	
F setligaindex	
F setmark	
F setmove	
F setposition	
F setspacekerns	
<b>insert_after</b>	function
<b>insert_before</b>	function
<b>insert_list_after</b>	function
<b>installattributehandler</b>	function

<b>is_direct</b>	function	<b>listcodes</b>	data table
<b>is_display_math</b>	function	<b>listtoutf</b>	function
<b>is_node</b>	function	<b>literalvalues</b>	data table
<b>is_nut</b>	function	<b>load</b>	function
<b>is_zero_glue</b>	function	<b>locate</b>	function
<b>kerncodes</b>	data table	<b>markers</b>	table
<b>kerning</b>	function	F get	
<b>keys</b>	table	<b>mathcodes</b>	data table
T whatsit		<b>maxboxwidth</b>	function
<b>last_node</b>	function	<b>migrations</b>	table
<b>leftmarginwidth</b>	function	F setinserts	
<b>length</b>	function	F setmarks	
<b>ligaturing</b>	function	<b>mlist_to_hlist</b>	function
<b>linefillers</b>	table	<b>new</b>	function
D data		<b>noadcodes</b>	data table
F define		<b>noadoptions</b>	table
F enable		N axis	
F filler		N exact	
F handler		N left	
<b>lines</b>	table	N middle	
T boxed		N no_axis	
F register		N right	
F setup		N set	
F stage_one		N unused_1	
F stage_two		N unused_2	
D data		<b>nodecodes</b>	data table
F finalize		<b>nopts</b>	function
F number		<b>nuts</b>	table
N scratchbox		F append	
<b>link</b>	function	F apply	
<b>linked</b>	function	F applyvisuals	
<b>list</b>	function	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\_attributes  
F delete  
F dimensions  
F dirdimensions  
F effective\_glue  
F end\_of\_math  
F exchange  
F find\_attribute  
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 getattr

F getattribute  
F getattributelist  
F getattrlist  
F getattrs  
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 getglyphdimensions  
F getheight  
F getid  
F getkern  
F getkerndimension  
F getlang  
F getlanguage  
F getleader  
F getlist  
F getnext  
F getnormalizedline  
F getnucleus

F getoffsets	F insert_list_after
F getoptions	F is_display_math
F getorientation	F is_node
F getpenalty	F is_nut
F getpost	F is_zero_glue
F getpre	F ischar
F getprev	F isdone
F getprop	F isglyph
F getreplace	F kerning
F getruledata	F last_node
F getscript	F leftmarginwidth
F getshift	F length
F getstate	F ligaturing
F getsub	F link
F getsubpre	F linked
F getsubtype	F locate
F getsup	F migrate
F getsuppre	F mlist_to_hlist
F getsurround	F nestedtracedslide
F getsyntexfields	F new
F gettotal	T pool
F getvalue	F accent
F getwhd	F baselineskip
F getwidth	F boundary
F has_attribute	F choice
F has_dimensions	F cleanup
F has_field	F delim
F has_glyph	F delimiter
F hpack	F direction
F hyphenating	F directliteral
F insert_after	F disc
F insert_before	F emptyrule

F fence  
F fontkern  
F fraction  
F glue  
F gluespec  
F glyph  
F hlist  
F indentskip  
F italicern  
F kern  
F latelua  
F leader  
F lefthangskip  
F leftmarginkern  
F leftskip  
F lineskip  
F literal  
F mathchar  
F mathtextchar  
F negatedglue  
F noad  
F originliteral  
F outlinerule  
F pageliteral  
F penalty  
F radical  
F rawliteral  
F register  
F restore  
F righthangskip  
F rightmarginkern  
F rightskip

F rule  
F save  
F savepos  
F setmatrix  
F shrink  
F stock  
F stretch  
F subbox  
F submlist  
F temp  
F usage  
T userids  
    N margins.inline  
    N splitters.one  
    N splitters.two  
F usernode  
F userrule  
F vlist  
F wordboundary  
F prepend  
F processranges  
F processwords  
F protect\_glyph  
F protect\_glyphs  
F protrusion\_skippable  
F rangedimensions  
F rawprop  
F reference  
F rehpac  
F remove  
F repacklist  
F replace

F reverse  
F rightmarginwidth  
T rules  
T ruleactions  
F box  
F draw  
F fill  
F mp  
F stroke  
F userrule  
F set\_attribute  
F set\_components  
F setattr  
F setattribute  
F setattributelist  
F setattributes  
F setattrlist  
F setattrs  
F setboth  
F setbox  
F setboxglue  
F setchar  
F setcomponents  
F setdata  
F setdepth  
F setdirection  
F setdisc  
F setdiscretionary  
F setexpansion  
F setfam  
F setfield  
F setfont

F setglue  
F setglyphdata  
F setheight  
F setkern  
F setlang  
F setlanguage  
F setleader  
F setlink  
F setlist  
F setnext  
F setnucleus  
F setoffsets  
F setoptions  
F setorientation  
F setparproperty  
F setpenalty  
F setpost  
F setpre  
F setprev  
F setprop  
F setreplace  
F setruledata  
F setscript  
F setshift  
F setsplit  
F setstate  
F setsub  
F setsubpre  
F setsubtype  
F setsup  
F setsuppre  
F setsurround



F setsynctexfields  
 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\_content  
 F traverse\_glyph  
 F traverse\_id  
 F traverse\_list  
 T traversers  
 F boundary

F char  
 F content  
 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**  
**parcodes**

function  
 data table

**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**

F baselineskip  
F cleanup  
F directliteral  
F glyph  
F hlist  
F latelua  
F lineskip  
F literal  
F originliteral  
F register  
F restore  
F rule  
F save  
F savepos  
F setmatrix  
F special

data table  
table

function  
table

F stock

F usage

F vlist

**prepend**

**print**

**processors**

F contribute\_filter  
B enabled  
F hpack\_filter  
F post\_linebreak\_filter  
F pre\_linebreak\_filter  
F tracer

**properties**

T data

**protect\_glyph**

**protect\_glyphs**

**protrusion\_skippable**

**pts**

**radicalcodes**

**rangedimensions**

**reference**

**references**

N attribute  
T done  
F handler  
T stack

**reheap**

**remove**

**repackhlist**

**replace**

**report**

**rightmarginwidth**

function

function

table

table

function

function

function

function

data table

function

function

table

function

function

function

function

function

function

<b>rulecodes</b>	data table	<b>showboxes</b>	function
<b>rules</b>	table	<b>showlist</b>	function
D data		<b>showsimplelist</b>	function
F define		<b>skipcodes</b>	data table
F enable		<b>slide</b>	function
F handler		<b>snapshots</b>	table
F userrule		F getsamples	
<b>save</b>	function	F resetsamples	
<b>serialize</b>	function	F takesample	
<b>serializebox</b>	function	<b>somepenalty</b>	function
<b>set_attribute</b>	function	<b>somespace</b>	function
<b>setattr</b>	function	<b>splitbox</b>	function
<b>setattribute</b>	function	<b>start_of_par</b>	function
<b>setattributes</b>	function	<b>stripdiscretionaries</b>	function
<b>setboth</b>	function	<b>stripping</b>	table
<b>setbox</b>	function	T glyphs	
<b>setboxtonaturalwd</b>	function	F set	
<b>setchar</b>	function	<b>subtypes</b>	data table
<b>setfield</b>	function	<b>tail</b>	function
<b>setfont</b>	function	<b>takeattr</b>	function
<b>setleader</b>	function	<b>takebox</b>	function
<b>setlink</b>	function	<b>tasks</b>	table
<b>setlist</b>	function	F actions	
<b>setnext</b>	function	F appendaction	
<b>setprev</b>	function	F disableaction	
<b>setunsetattributes</b>	function	F disablegroup	
<b>shifts</b>	table	F enableaction	
D data		F enablegroup	
F define		F freeze	
F enable		F freezegroup	
F handler		F new	
<b>show</b>	function	F prependaction	

- F removeaction
- F replaceaction
- F restart
- F setaction
- F showactions
- F table

- tobasepoints** function
- tocentimeters** function
- toxiceros** function
- todidots** function
- todimen** function
- toinches** function
- tomillimeters** function
- tonode** function
- tonodes** function
- tonut** function
- topics** function
- topoints** function
- toscaledpoints** function
- tosequence** function
- tostring** function
- totable** function
- totree** function
- toutf** function
- tracers** table

- T characters
  - F collect
  - F equal
  - F start
  - F string
  - F unicodes
- T colors

- F reset
- F set
- F setlist
- F directions
- F fontchar
- T frequencies
  - F register
- T pool
  - T nodes
    - F rule
  - T nuts
    - F rule
- F resetproperties
- F rule
- F setlist
- F setproperties
- F start
- T steppers
  - F check
  - F codes
  - F features
  - F font
  - F glyphs
  - F message
  - F messages
  - F nofsteps
  - F register
  - F reset
  - F start
  - F stop
- F stop
- T transparencies

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

## number (context)

	function
<b>basepoints</b>	function
<b>bytetodecimal</b>	function
<b>compactfloat</b>	function
<b>decimaltobyte</b>	function
<b>dimenfactors</b>	data table
<b>formatted</b>	function
<b>formattedfloat</b>	function
<b>idiv</b>	function
<b>maxdimen</b>	number
<b>nopts</b>	function
<b>percent</b>	function
<b>points</b>	function
<b>pts</b>	function
<b>signed</b>	function
<b>sparseexponent</b>	function
<b>splitdimen</b>	function
<b>tol6dot16</b>	function

<b>tobasepoints</b>	function
<b>tobitstring</b>	function
<b>tocentimeters</b>	function
<b>toxiceros</b>	function
<b>tocontext</b>	function
<b>todidots</b>	function
<b>todimen</b>	function
<b>toevenhex</b>	function
<b>toinches</b>	function
<b>tomillimeters</b>	function
<b>tonumberf</b>	function
<b>tonumberg</b>	function
<b>topics</b>	function
<b>topoints</b>	function
<b>toscaled</b>	function
<b>toscaledpoints</b>	function
<b>valid</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>valldate</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 setsize  
F setspan  
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

## pdfc (extra tex)

<b>arraytotable</b>	function
<b>close</b>	function
<b>closestream</b>	function
<b>dictionarytotable</b>	function
<b>encryptioncodes</b>	data table
<b>getarray</b>	function
<b>getboolean</b>	function
<b>getbox</b>	function
<b>getcatalag</b>	function
<b>getdictionary</b>	function
<b>getfromarray</b>	function
<b>getfromdictionary</b>	function
<b>getfromreference</b>	function
<b>getfromstream</b>	function
<b>getinfo</b>	function
<b>getinteger</b>	function
<b>getmemoryusage</b>	function
<b>getname</b>	function
<b>getnofobjects</b>	function
<b>getnofpages</b>	function

<b>getnumber</b>	function
<b>getpage</b>	function
<b>getpages</b>	function
<b>getsize</b>	function
<b>getstatus</b>	function
<b>getstream</b>	function
<b>getstring</b>	function
<b>gettrailer</b>	function
<b>getversion</b>	function
<b>new</b>	function
<b>objectcodes</b>	data table
<b>open</b>	function
<b>openfile</b>	function
<b>openstream</b>	function
<b>pagestotable</b>	function
<b>readfromstream</b>	function
<b>readwholestream</b>	function
<b>type</b>	function
<b>unencrypt</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)

**addtexentry** function  
**analyze** function  
**anywhere** function  
**authorcache** data table  
**authorcollapsers** data table  
**authorhashers** table

F invertedshort  
F normal  
F normalinverted  
F normalshort  
F sequential  
F sequentialshort  
F short

**authormap** data table  
**authortoregister** function  
**casters** table

F author  
F keyword  
F pagenumber  
F range

**checkeddataset** function  
**citevariants** table

F author  
F authornum  
F authoryear  
F authoryears  
F category  
F default  
F entry

F index  
F keywords  
F num  
F page  
F short  
F tag  
F textnum  
F year

**collected** data table  
**components** table

F author

**concatstate** function  
**converttoxml** function  
**currentspecification** table

S author  
T categories  
T article  
S category  
T extra  
T fields  
S author  
S editor  
S journal  
S keywords  
S note  
S number  
S pages  
S title  
S volume



S year	S author
T optional	S institution
T required	S organization
T sets	S subtitle
T author	S title
T virtual	S year
T book	T optional
S category	T required
T extra	T sets
T fields	T author
S address	T virtual
S author	T demo-b
S edition	S category
S editor	T extra
S keywords	T fields
S note	S author
S number	S institution
S publisher	S organization
S subtitle	S subtitle
S title	S title
S volume	S year
S year	T optional
T optional	T required
T required	T sets
T sets	T authors
T author	T virtual
T editionset	S comment
T virtual	S copyright
T demo-a	T fields
S category	S name
T extra	T types
T fields	S author

- S editor
- S keywords
- S number
- S page
- S pages
- S volume
- S version
- D virtual
- T virtualfields
- B authornum
- B authoryear
- B authoryears
- B num
- B suffix

**datasets** table

**detailed** table

**endnotes\_to\_btx** function

**enhancer** table

- S arguments
- T askip
- B dirty
- T gskip
- T kind
- T list
- T system
- T order
- N steps

**enhancers** table

- F details
- F order
- F suffixes

**finder** function

**firstofrange** function

**found** function

**get** function

**getcasted** function

**getdetail** function

**getdirect** function

**getfaster** function

**getfield** function

**getfuzzy** function

**getindex** function

**inspectors** data table

**journals** table

- F abbreviated
- F add
- F expanded
- F load
- F save

**lastofrange** function

**lists** table

- F collectentries
- F combiinlist
- F fetchentries
- F filterall
- F flushcombi
- F flushentry
- F flushtag
- T methods
- F dataset
- F force
- F global
- F local
- F nofregistered

- F prepareentries
- F register
- F sameasprevious
- T sorters
  - F cite
  - F dataset
  - F default
  - F index
  - F list
  - F reference
  - F short
  - F used
- F uservariable

**listvariants**                      table

- F default
- F index
- F num
- F short
- F tag

**load**                                      function

**loadbibdata**                            function

**loaddefinitionfile**                    function

**loaders**                                table

- F bbl
- F bib
- F buffer
- F endnote
- F json
- F lua
- F refman
- F registercleaner
- F xml

**loadreplacementfile**                  function

**new**                                      function

**okay**                                    function

**oneorrange**                            function

**parenttag**                            function

**permitted**                            function

**prerollcmdstring**                    function

**refman\_to\_btx**                        function

**resolvedname**                        function

**save**                                    function

**savers**                                table

- F bib

- F lua

- F xml

**search**                                      function

**setcategory**                            function

**setspecification**                    function

**singularorplural**                    function

**sortedentries**                        function

**sortmethods**                            table

- T authoryear

- T sequence

**specifications**                        table

- T default

- S author

- S comment

- S copyright

- S name

- S version

- D virtual

**splitauthor**                            function

**splitoneauthor**                        function

**statistics**

table

N nofbytes  
N nofdatasets  
N nofdefinitions  
N nofshortcuts

**tables**

table

D implicits  
D origins  
D privates  
D sets  
D specials  
D types  
D virtuals

**tags**

function

**tracers**

table

F showdatasetauthors  
F showdatasetcompleteness

F showdatasetfields

F showentry

F showfields

F showhashedauthors

F showtables

F showvariants

**typesetters**

table

F author

F string

**usedataset**

function

**usedentries**

function

**writers**

table

F author

F keyword

F pagenumber

F range

## 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>filtered_from_content</b>	function
<b>appendhash</b>	function	<b>find_file</b>	function
<b>automount</b>	function	<b>find_files</b>	function
<b>booleanvariable</b>	function	<b>findbinfile</b>	function
<b>cacheversion</b>	string	<b>findctxfile</b>	function
<b>checkedvariable</b>	function	<b>finders</b>	data table
<b>cleanedpathlist</b>	function	<b>findfile</b>	function
<b>cleanpath</b>	function	<b>findfiles</b>	function
<b>cleanpathlist</b>	function	<b>findgivenfile</b>	function
<b>concatinators</b>	data table	<b>findgivenfiles</b>	function
<b>configbanner</b>	string	<b>findlib</b>	function
<b>configurationfiles</b>	function	<b>findpath</b>	function
<b>dangerous</b>	data table	<b>findtexfile</b>	function
<b>datastate</b>	function	<b>findwildcardfile</b>	function
<b>defaultsuffixes</b>	table	<b>findwildcardfiles</b>	function
<b>dirstatus</b>	function	<b>formatofsuffix</b>	function
<b>dowithfilesandreport</b>	function	<b>formatofvariable</b>	function
<b>dowithfilesintree</b>	function	<b>formats</b>	data table
<b>dowithpath</b>	function	<b>foundintree</b>	function
<b>dowithvariable</b>	function	<b>foundintrees</b>	function
<b>executers</b>	table	<b>generators</b>	data table
<b>expandbraces</b>	function	<b>get_from_content</b>	function
<b>expandedpathfromlist</b>	function	<b>getenv</b>	function
<b>expandedpathlist</b>	function	<b>getextrapaths</b>	function
<b>expandedpathlistfromvariable</b>	function	<b>getfilehashes</b>	function
<b>expandpath</b>	function	<b>gethashes</b>	function
<b>expandpathfromvariable</b>	function	<b>getownpath</b>	function
<b>expansion</b>	function	<b>getreadfilename</b>	function
<b>extendtexmfvariable</b>	function	<b>hashers</b>	data table

<b>homedir</b>	string	F convertfile	
<b>initialized</b>	function	F decodecomment	
<b>installinputfilehandler</b>	function	F enablecomment	
<b>installinputlinehandler</b>	function	F encodecomment	
<b>jobpath</b>	function	F preprocessed	
<b>jobs</b>	table	F processmk	
F currentcomponent		F processmklx	
F currentenvironment		F processmkvi	
F currentproduct		F version	
F currentproject		<b>maxreadlevel</b>	number
F justacomponent		<b>methodhandler</b>	function
D processors		<b>openbinfile</b>	function
F productcomponent		<b>openers</b>	data table
F usefile		<b>openfile</b>	function
<b>joinpath</b>	function	<b>opentexfile</b>	function
<b>knownvariables</b>	function	<b>ownpath</b>	string
<b>libraries</b>	table	<b>popextrapath</b>	function
F optionalloaded		<b>popinputname</b>	function
F validoptional		<b>poppath</b>	function
<b>load</b>	function	<b>prefixes</b>	data table
<b>loadbinfile</b>	function	<b>prependhash</b>	function
<b>loaders</b>	data table	<b>pushextrapath</b>	function
<b>loadlualib</b>	function	<b>pushinputname</b>	function
<b>loadtexfile</b>	function	<b>pushpath</b>	function
<b>loadtime</b>	function	<b>registerextrapath</b>	function
<b>locateformat</b>	function	<b>registerfile</b>	function
<b>locators</b>	data table	<b>registerfilehash</b>	function
<b>luacnffallback</b>	string	<b>registerintrees</b>	function
<b>luacnfname</b>	string	<b>registermethod</b>	function
<b>luacnfspec</b>	string	<b>registerzipfile</b>	function
<b>luacnfstate</b>	string	<b>relations</b>	data table
<b>macros</b>	table	<b>renew</b>	function

<b>renewcache</b>	function	<b>splitexpansions</b>	function
<b>repath</b>	function	<b>splitmethod</b>	function
<b>reset</b>	function	<b>splitpath</b>	function
<b>resetextrapaths</b>	function	<b>stackpath</b>	function
<b>resetmemstream</b>	function	<b>starttiming</b>	function
<b>resetresolve</b>	function	<b>stoptiming</b>	function
<b>resolve</b>	function	<b>suffixes</b>	data table
<b>savers</b>	data table	<b>suffixmap</b>	data table
<b>scandata</b>	function	<b>suffixoffformat</b>	function
<b>scanfiles</b>	function	<b>texdatablob</b>	function
<b>schemes</b>	table	<b>toppath</b>	function
T cleaners		<b>unexpandedpath</b>	function
F md5		<b>unexpandedpathlist</b>	function
F none		<b>unresolve</b>	function
F strip		<b>updaterelations</b>	function
F cleannname		<b>updatescript</b>	function
F fetchstring		<b>uselibrary</b>	function
F fetchtable		<b>usertypes</b>	data table
F install		<b>usezipfile</b>	function
<b>setdynamic</b>	function	<b>validatedpath</b>	function
<b>setenv</b>	function	<b>variable</b>	function
<b>setmemstream</b>	function	<b>variableoffformat</b>	function
<b>showpath</b>	function	<b>variableoffformatorsuffix</b>	function
<b>simplescanfiles</b>	function	<b>wildcardpattern</b>	function
<b>splitconfigurationpath</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)

<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

# socket (extra lua)

<b>BLOCKSIZE</b>	number	S bcc
<b>_DATAGRAMSIZE</b>	number	S cache-control
<b>_SETSIZE</b>	number	S cc
<b>_SOCKETINVALID</b>	number	S comments
<b>bind</b>	function	S connection
<b>choose</b>	function	S content-description
<b>connect</b>	function	S content-disposition
<b>connect4</b>	function	S content-encoding
<b>connect6</b>	function	S content-id
<b>dns</b>	table	S content-language
F getaddrinfo		S content-length
F gethostname		S content-location
F getnameinfo		S content-md5
F tohostname		S content-range
F toip		S content-transfer-encoding
<b>gettime</b>	function	S content-type
<b>headers</b>	table	S cookie
T canonic		S date
S accept		S diagnostic-code
S accept-charset		S dsn-gateway
S accept-encoding		S etag
S accept-language		S expect
S accept-ranges		S expires
S action		S final-log-id
S age		S final-recipient
S allow		S from
S alternate-recipient		S host
S arrival-date		S if-match
S authorization		S if-modified-since

S if-none-match  
 S if-range  
 S if-unmodified-since  
 S in-reply-to  
 S keywords  
 S last-attempt-date  
 S last-modified  
 S location  
 S max-forwards  
 S message-id  
 S mime-version  
 S original-envelope-id  
 S original-recipient  
 S pragma  
 S proxy-authenticate  
 S proxy-authorization  
 S range  
 S received  
 S received-from-mta  
 S references  
 S referer  
 S remote-mta  
 S reply-to  
 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

<b>newtry</b>	function
<b>protect</b>	function
<b>report</b>	function
<b>select</b>	function
<b>sink</b>	function

<b>sinkt</b>	table
F close-when-done	
F default	
F http-chunked	
F keep-open	
<b>skip</b>	function
<b>sleep</b>	function
<b>source</b>	function
<b>sourcet</b>	table
F by-length	
F default	
F http-chunked	
F until-closed	
<b>tcp</b>	function
<b>tcp4</b>	function
<b>tcp6</b>	function

<b>tp</b>	table
N TIMEOUT	
F connect	
<b>try</b>	function
<b>udp</b>	function
<b>udp4</b>	function
<b>udp6</b>	function
<b>url</b>	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 digitsmaximum	
N digitsoffset	
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>showmemory</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>getextrastate</b>	function
<b>getfilestate</b>	function
<b>getfontstate</b>	function
<b>gethalferrorlinestate</b>	function
<b>gethashstate</b>	function
<b>getinputstate</b>	function
<b>getlanguagestate</b>	function
<b>getlookupstate</b>	function
<b>getluastate</b>	function

<b>getmarksstate</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>getsparsestate</b>	function
<b>getstringstate</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>data</b>	table
<b>mark</b>	function
<b>marked</b>	function
<b>max</b>	number
<b>min</b>	number
<b>nofmodules</b>	number

<b>noftables</b>	number
<b>register</b>	function
<b>shared</b>	data table
<b>storedfunctions</b>	data table
<b>strip</b>	boolean
<b>tofmodules</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>autosingle</b>	function
<b>booleanstring</b>	function
<b>byte</b>	function
<b>bytepairs</b>	function
<b>bytes</b>	function
<b>bytetable</b>	function
<b>char</b>	function
<b>characterpairs</b>	function
<b>characters</b>	function
<b>checkedsplit</b>	function
<b>collapsespaces</b>	function
<b>containsws</b>	function
<b>count</b>	function
<b>dawson</b>	function
<b>dump</b>	function
<b>erf</b>	function
<b>erfc</b>	function
<b>erfcx</b>	function
<b>erfi</b>	function
<b>escapedpattern</b>	function
<b>escapedquotes</b>	function
<b>explode</b>	function
<b>f6</b>	function
<b>find</b>	function
<b>format</b>	function
<b>formatter</b>	function
<b>formatters</b>	function
<b>fullstrip</b>	function

<b>gmatch</b>	function
<b>gsub</b>	function
<b>is_boolean</b>	function
<b>is_empty</b>	function
<b>itself</b>	function
<b>len</b>	function
<b>limit</b>	function
<b>linetable</b>	function
<b>longtostring</b>	function
<b>lower</b>	function
<b>match</b>	function
<b>nospaces</b>	function
<b>nspaces</b>	table
<b>optionalquoted</b>	function
<b>pack</b>	function
<b>packsize</b>	function
<b>quote</b>	function
<b>quoted</b>	function
<b>rep</b>	function
<b>replacenewlines</b>	function
<b>reverse</b>	function
<b>split</b>	function
<b>splitlines</b>	function
<b>splitup</b>	function
<b>strip</b>	function
<b>sub</b>	function
<b>tformat</b>	function
<b>toHEX</b>	function
<b>toboollean</b>	function

<b>tobytes</b>	function	<b>unquote</b>	function
<b>tocontext</b>	function	<b>unquoted</b>	function
<b>todec</b>	function	<b>upper</b>	function
<b>todimen</b>	function	<b>utfcharacter</b>	function
<b>tohex</b>	function	<b>utfcharacters</b>	function
<b>tonodes</b>	function	<b>utfcharacteretable</b>	function
<b>topattern</b>	function	<b>utflength</b>	function
<b>totable</b>	function	<b>utfpadd</b>	function
<b>tounicode16</b>	function	<b>utfpadding</b>	function
<b>toutf</b>	function	<b>utfvalue</b>	function
<b>toutf32</b>	function	<b>utfvalues</b>	function
<b>toutf8</b>	function	<b>utfvaluetable</b>	function
<b>tracedchar</b>	function	<b>valid</b>	function
<b>tracedchars</b>	table	<b>voigt</b>	function
<b>unpack</b>	function	<b>voigt_hwhm</b>	function

# structures (context)

<b>atlocation</b>	function	F add
<b>blocks</b>	table	F analyze
D collected		F check
F define		D collected
F print		F compact
F save		F converted
F select		F currentvalue
F setstate		D data
D states		F define
D tobесaved		F first
F uservariable		F get
<b>bookmarks</b>	table	F last
T extras		F next
F get		F prev
F mergesections		F previous
F register		F raw
F reset		F record
F tosections		F reset
F finalize		F restart
F flatten		F restore
F installhandler		F save
F merge		F set
S method		F setlevel
F overload		F setoffset
F place		F setown
F register		F setstate
F setopened		F setvalue
F setup		T specials
<b>counters</b>	table	F userpage



F subs	
D tobesaved	
F value	
F way	
<b>currentsectionnumber</b>	function
<b>descriptions</b>	table
<b>documents</b>	table
D data	
F initialize	
F preset	
F reset	
<b>floats</b>	table
<b>formulas</b>	table
<b>helpers</b>	table
F analyze	
F formulanumber	
F merged	
F page	
F pageofinternal	
F prefix	
F prefixlastpage	
F prefixpage	
F simplify	
F title	
F touserdata	
<b>inserts</b>	table
D data	
F define	
F getdata	
F getlocation	
F getname	
F getnumber	

F setlocation	
F setup	
D stored	
<b>itemgroups</b>	table
<b>lists</b>	table
F addto	
F analyze	
B autoreorder	
D cached	
D collected	
F discard	
F enhance	
T enhancers	
F filter	
F formulanumber	
F getresult	
F groupindex	
F hasnumberdata	
F haspagedata	
F hastitledata	
F iscached	
D kinds	
F label	
F location	
D names	
F number	
D ordered	
F page	
F popnesting	
F prefix	
F prefixednumber	
F prefixedpage	

F process  
D pushed  
F pushnesting  
F realpage  
F reordered  
T result  
F savedlistnumber  
F savedlistprefixednumber  
F savedlisttitle  
D sectionblocks  
F sectionnumber  
F size  
F title  
D tobesaved  
F userdata  
F uservalue

**marks** **table**

D data  
F define  
F exists  
F fetch  
F fetchallmarks  
F fetched  
F fetchonemark  
F fetchtwomarks  
F get  
F number  
F relate  
F reset  
F set  
F show  
F synchronize

F title  
T tracers  
F showtable

**notes** **table**

F check\_spacing  
F checkpagechange  
F define  
F doifonsamepageasprevious  
F get  
F getdeltapage  
F getinternal  
F getn  
F getstate  
F hascontent  
F internal  
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
- F define
- F enhance
- F extend
- F filter
- F filtercollected
- F finalize
- F findinternal
- F flush
- F get
- F prepare
- F process
- F setmethod

table

F sort  
F store  
D tobesaved  
F unique  
F userdata

**sections**                      table

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

F reportstructure  
F save  
T sectionblockdata  
T bodypart  
S bookmark

F set  
F setblock  
F setchecker  
F setentry  
F setinitialblock  
F setlevel  
F setnumber  
F showstructure  
F structuredata  
F title  
D tobesaved  
F typesetnumber  
F userdata  
B verbose

**sets**                                      table

F define  
F get  
F getall  
D setlist

**specials**                                      table

D collected  
F retrieve  
F store  
D tobesaved

**synonyms**                                      table

F analyzed  
D collected

- F compare
- F define
- F filter
- F finalize
- F flush
- F isshown
- F isused
- F meaning
- F prepare
- F process
- F register
- F registershown
- F registerused
- F resetshown
- F resetused
- F sort
- F synonym
- D tobesaved

## table

- F current
- F elementtag
- F finishexport
- F getextradata
- F getid
- F getmetadata
- F gettablecell
- F gettabulatecell
- F handler
- F initializeexport
- D labels
- F last
- F lastinchain

- F locatedtag
- T patterns
- U splitter
- D properties
- F registerextradata
- F registermetadata
- F restart
- F setaspect
- F setattributehash
- F setcombination
- F setconstruct
- F setfigure
- F setfloat
- F setformulacontent
- F sethighlight
- F setitem
- F setitemgroup
- F setlist
- F setnotation
- F setnotationsymbol
- F setparagraph
- F setproperty
- F setpublication
- F setregister
- F setsorting
- F setsynonym
- F settablecell
- F settabulatecell
- F settagdelimitedsymbol
- F settagsubsentencesymbol
- 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>append</b>	function
<b>are_equal</b>	function
<b>collapsed</b>	function
<b>collapsedhash</b>	function
<b>compact</b>	function
<b>concat</b>	function
<b>contains</b>	function
<b>copy</b>	function
<b>count</b>	function
<b>derive</b>	function
<b>deserialize</b>	function
<b>drop</b>	function
<b>fastcopy</b>	function
<b>fastserialize</b>	function
<b>filtered</b>	function
<b>flattened</b>	function
<b>fromhash</b>	function
<b>getmetatablekey</b>	function
<b>getn</b>	function
<b>has_one_entry</b>	function
<b>hashed</b>	function
<b>identical</b>	function
<b>imerge</b>	function
<b>merged</b>	function
<b>insert</b>	function
<b>is_empty</b>	function
<b>is_simple_table</b>	function
<b>keys</b>	function

<b>load</b>	function
<b>loweredkeys</b>	function
<b>makeweak</b>	function
<b>merge</b>	function
<b>merged</b>	function
<b>mirrored</b>	function
<b>move</b>	function
<b>ordered</b>	function
<b>orderedhash</b>	function
<b>pack</b>	function
<b>prepend</b>	function
<b>print</b>	function
<b>remove</b>	function
<b>reverse</b>	function
<b>reversed</b>	function
<b>save</b>	function
<b>sequenced</b>	function
<b>serialize</b>	function
<b>setmetatablecall</b>	function
<b>setmetatableindex</b>	function
<b>setmetatableindices</b>	function
<b>setmetatablekey</b>	function
<b>setmetatablenewindex</b>	function
<b>sort</b>	function
<b>sorted</b>	function
<b>sortedhash</b>	function
<b>sortedhashkeys</b>	function
<b>sortedhashonly</b>	function
<b>sortedindexonly</b>	function



<b>sortedkeys</b>	function	<b>tohandle</b>	function
<b>sortedpairs</b>	function	<b>tohash</b>	function
<b>sparse</b>	function	<b>toxml</b>	function
<b>strip</b>	function	<b>twowaymapper</b>	function
<b>sub</b>	function	<b>unique</b>	function
<b>swapped</b>	function	<b>unnest</b>	function
<b>tocontext</b>	function	<b>unpack</b>	function
<b>tocsv</b>	function	<b>values</b>	function
<b>tofile</b>	function		

## tex (basic tex)

<b>attribute</b>	table	<b>forcesynctexline</b>	function
<b>badness</b>	function	<b>forcesynctextag</b>	function
<b>box</b>	table	<b>fprint</b>	function
<b>boxresources</b>	table	<b>frozenparcodes</b>	data table
F getbox		<b>get</b>	function
F getdimensions		<b>getattribute</b>	function
F save		<b>getbox</b>	function
F use		<b>getboxdir</b>	function
<b>catcode</b>	table	<b>getboxresourcebox</b>	function
<b>chardef</b>	function	<b>getboxresourcedimensions</b>	function
<b>conditionals</b>	data table	<b>getcatcode</b>	function
<b>constants</b>	data table	<b>getcount</b>	function
<b>count</b>	table	<b>getdelcode</b>	function
<b>cprint</b>	function	<b>getdelcodes</b>	function
<b>ctdcatcodes</b>	number	<b>getdimen</b>	function
<b>ctxcatcodes</b>	number	<b>geterrorvalues</b>	function
<b>definefont</b>	function	<b>getflagvalues</b>	function
<b>delcode</b>	table	<b>getfontoffamily</b>	function
<b>dimen</b>	table	<b>getfrozenparvalues</b>	function
<b>directives</b>	data table	<b>getglue</b>	function
<b>enableprimitives</b>	function	<b>getglyphdata</b>	function
<b>error</b>	function	<b>getglyphoptionvalues</b>	function
<b>experiments</b>	data table	<b>getglyphscript</b>	function
<b>extraprimitives</b>	function	<b>getglyphstate</b>	function
<b>fatalerror</b>	function	<b>getgroupvalues</b>	function
<b>flagcodes</b>	data table	<b>gethelptext</b>	function
<b>fontidentifier</b>	function	<b>gethyphenationvalues</b>	function
<b>fontname</b>	function	<b>getintegervalue</b>	function
<b>forcehmode</b>	function	<b>getinteraction</b>	function

<b>getiovalues</b>	function
<b>getlargestusedmark</b>	function
<b>getlccode</b>	function
<b>getlinedir</b>	function
<b>getlist</b>	function
<b>getlocallevel</b>	function
<b>getmark</b>	function
<b>getmath</b>	function
<b>getmathcode</b>	function
<b>getmathcodes</b>	function
<b>getmathdir</b>	function
<b>getmodevalues</b>	function
<b>getmuglue</b>	function
<b>getmuskip</b>	function
<b>getnest</b>	function
<b>getnormalizevalues</b>	function
<b>getoutputactive</b>	function
<b>getpagestate</b>	function
<b>getpardir</b>	function
<b>getsfcode</b>	function
<b>getskip</b>	function
<b>getsynctexline</b>	function
<b>getsynctexmode</b>	function
<b>getsynctextag</b>	function
<b>gettextdir</b>	function
<b>gettoks</b>	function
<b>getuccode</b>	function
<b>glue</b>	table
<b>glyphoptioncodes</b>	data table
<b>groupcodes</b>	data table
<b>hashtokens</b>	function
<b>hyphenationcodes</b>	data table

<b>ifs</b>	data table
<b>inimatcodes</b>	number
<b>integerdef</b>	function
<b>isattribute</b>	function
<b>isbox</b>	function
<b>iscount</b>	overloaded function
<b>isdefined</b>	function
<b>isdimen</b>	overloaded function
<b>isglue</b>	function
<b>ismuglue</b>	function
<b>ismuskip</b>	overloaded function
<b>isprintable</b>	function
<b>isskip</b>	overloaded function
<b>istoken</b>	function
<b>istoks</b>	function
<b>lastnodetype</b>	function
<b>lccode</b>	table
<b>linebreak</b>	function
<b>lists</b>	table
<b>luacatcodes</b>	number
<b>magicconstants</b>	table
N maxdimen	
N running	
N trueinch	
<b>mathchardef</b>	function
<b>mathcode</b>	table
<b>modelevels</b>	table
N horizontal	
N math	
N unset	
N vertical	
<b>modes</b>	data table

<b>mprint</b>	function	<b>setglyphscript</b>	function
<b>muglue</b>	table	<b>setglyphstate</b>	function
<b>muskip</b>	table	<b>setintegervalue</b>	function
<b>nest</b>	table	<b>setinteraction</b>	function
<b>nilcatcodes</b>	number	<b>setlccode</b>	function
<b>notcatcodes</b>	number	<b>setlinedir</b>	function
<b>number</b>	function	<b>setlist</b>	function
<b>poplocal</b>	function	<b>setmath</b>	function
<b>primitives</b>	function	<b>setmathcode</b>	function
<b>print</b>	function	<b>setmathdir</b>	function
<b>prtcacodes</b>	number	<b>setmuglue</b>	function
<b>pushlocal</b>	function	<b>setmuskip</b>	function
<b>quitlocal</b>	function	<b>setnest</b>	function
<b>quittoks</b>	function	<b>setpardir</b>	function
<b>resetparagraph</b>	function	<b>setsfcode</b>	function
<b>romannumeral</b>	function	<b>setskip</b>	function
<b>round</b>	function	<b>setsynctexline</b>	function
<b>runlocal</b>	function	<b>setsynctexmode</b>	function
<b>runtoks</b>	function	<b>setsynctextag</b>	function
<b>saveboxresource</b>	function	<b>settettdir</b>	function
<b>scale</b>	function	<b>settoks</b>	function
<b>scantoks</b>	function	<b>setuccode</b>	function
<b>set</b>	function	<b>sfcode</b>	table
<b>setattribute</b>	function	<b>shipout</b>	function
<b>setbox</b>	function	<b>showcontext</b>	function
<b>setboxdir</b>	function	<b>skip</b>	table
<b>setcatcode</b>	function	<b>sp</b>	function
<b>setcount</b>	function	<b>splitbox</b>	function
<b>setdelcode</b>	function	<b>sprint</b>	function
<b>setdimen</b>	function	<b>systemmodes</b>	data table
<b>setglue</b>	function	<b>takebox</b>	function
<b>setglyphdata</b>	function	<b>texcatcodes</b>	number

<b>toks</b>	table	<b>txtcatcodes</b>	number
<b>tonumber</b>	function	<b>type</b>	function
<b>toscaled</b>	function	<b>uccode</b>	table
<b>tpacatcodes</b>	number	<b>uprint</b>	function
<b>tpbcatcodes</b>	number	<b>useboxresource</b>	function
<b>tprint</b>	function	<b>vrbcacodes</b>	number
<b>trackers</b>	data table	<b>write</b>	function
<b>triggerbuildpage</b>	function		

## texconfig (basic tex)

<b>buffer_size</b>	number
<b>error_line</b>	number
<b>expand_depth</b>	number
<b>firstline</b>	string
<b>formatname</b>	string
<b>function_size</b>	number
<b>half_error_line</b>	number
<b>hash_extra</b>	number
<b>init</b>	overloaded function
<b>kpse_init</b>	boolean
<b>max_in_open</b>	number

<b>max_pool</b>	number
<b>max_print_line</b>	number
<b>max_strings</b>	number
<b>nest_size</b>	number
<b>node_size</b>	number
<b>param_size</b>	number
<b>properties_size</b>	number
<b>save_size</b>	number
<b>shell_escape</b>	string
<b>stack_size</b>	number
<b>token_size</b>	number

## texio (basic tex)

**closeinput** function

**terminal** function

**write** function

**write\_nl** function

## token (basic tex)

**accessors**                      table

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

**create**                      function  
**expand**                      function  
**expand\_macro**                function  
**future\_expand**                function  
**get\_active**                    function  
**get\_cmdchrcls**                function  
**get\_cmdname**                function  
**get\_command**                function  
**get\_csname**                function  
**get\_cstoken**                function  
**get\_expandable**                function  
**get\_fields**                    function  
**get\_flags**                    function  
**get\_frozen**                    function  
**get\_id**                        function  
**get\_immutable**                function

**get\_index**                    function  
**get\_instance**                function  
**get\_integer**                function  
**get\_macro**                    function  
**get\_meaning**                function  
**get\_noaligned**                function  
**get\_parameters**                function  
**get\_permanent**                function  
**get\_primitive**                function  
**get\_protected**                function  
**get\_range**                    function  
**get\_tok**                      function  
**get\_tolerant**                function  
**getcommandid**                function  
**getcommandvalues**            function  
**getfunctionvalues**            function  
**getprimitives**                function  
**gobble**                      function  
**gobble\_dimen**                function  
**gobble\_integer**                function  
**is\_defined**                    function  
**is\_next\_char**                function  
**is\_token**                      function  
**new**                          function  
**peek\_next**                    function  
**peek\_next\_char**                function  
**peek\_next\_expanded**            function  
**pop\_macro**                    function  
**push\_macro**                    function



<b>put_back</b>	function	<b>scan_luainteger</b>	function
<b>put_next</b>	function	<b>scan_luanumber</b>	function
<b>save_lua</b>	function	<b>scan_next</b>	function
<b>scan_argument</b>	function	<b>scan_next_char</b>	function
<b>scan_box</b>	function	<b>scan_next_expanded</b>	function
<b>scan_cardinal</b>	function	<b>scan_real</b>	function
<b>scan_char</b>	function	<b>scan_skip</b>	function
<b>scan_cmdchr</b>	function	<b>scan_string</b>	function
<b>scan_cmdchr_expanded</b>	function	<b>scan_token</b>	function
<b>scan_code</b>	function	<b>scan_token_code</b>	function
<b>scan_csname</b>	function	<b>scan_tokenlist</b>	function
<b>scan_delimited</b>	function	<b>scan_toks</b>	function
<b>scan_dimen</b>	function	<b>scan_value</b>	function
<b>scan_dimen_argument</b>	function	<b>scan_word</b>	function
<b>scan_float</b>	function	<b>serialize</b>	function
<b>scan_glue</b>	function	<b>set_char</b>	function
<b>scan_integer</b>	function	<b>set_integer</b>	function
<b>scan_integer_argument</b>	function	<b>set_lua</b>	function
<b>scan_key</b>	function	<b>set_macro</b>	function
<b>scan_keyword</b>	function	<b>skip_next</b>	function
<b>scan_keyword_cs</b>	function	<b>skip_next_expanded</b>	function
<b>scan_letters</b>	function	<b>type</b>	function
<b>scan_luacardinal</b>	function	<b>undefine_macro</b>	function

# tokens (context)

**astable**      function

**bits**          table

N active  
N alignment  
N begingroup  
N character  
N close  
N comment  
N endgroup  
N endofline  
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 scratchtoks  
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

**flags** function

**getinteger** 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 cmdchrexplanded

- F code

- F conditional

- F count

- F csname

- F delimited

- F dimen

F dimenargument  
F dimension  
F float  
F glue  
F gluespec  
F gluevalues  
F hash  
F hbox  
F integer  
F integerargument  
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

**setinteger** function

**setters** table

F box  
F char  
F count  
F dimen  
F glue  
F lua  
F macro  
F skip

**shortcuts** table

T bits  
N active  
N alignment  
N begingroup  
N character  
N close  
N comment  
N endgroup

N endofline	F scandimension
N escape	F scanglue
N ignore	F scangluespec
N invalid	F scangluevalues
N letter	F scanhash
N mathshift	F scanhbox
N open	F scaninteger
N other	F scanintegerargument
N parameter	F scankeyword
N space	F scankeywordcs
N subscript	F scanletters
N superscript	F scanlist
N whitespace	T scanners
N close	F argument
F inspect	F argumentasis
N open	F array
F report	F boolean
F scanargument	F box
F scanargumentasis	F bracketed
F scanarray	F bracketedasis
F scanboolean	F cardinal
F scanbox	F char
F scanbracketed	F cmdchr
F scanbracketedasis	F cmdchrexplained
F scancardinal	F code
F scanclose	F conditional
F scancode	F count
F scanconditional	F csname
F scancsname	F delimited
F scandelimited	F dimen
F scandimen	F dimenargument
F scandimenargument	F dimension

F float  
F glue  
F gluespec  
F gluevalues  
F hash  
F hbox  
F integer  
F integerargument  
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  
F scannumber  
F scanopen  
F scanoptional  
F scanstring  
F scantable  
F scantokenlist  
F scantoks  
F scanvbox  
F scanverbatim  
F scanvtop  
F scanword  
F toboolean  
F todimen  
T tokens  
F astable  
T cache  
U NC  
U NR  
U bf  
U color  
U colordefalc

U colordefflc	U texsetup
U colordefflt	U xmlw
U colordefrlt	D commands
U dofinishreference	F compile
U dostarttext	F constant
U finishjob	T converters
U firstofoneargument	S toboolean
U firstoftwoarguments	S todimen
U gobbleoneargument	S toglue
U goto	S tonumber
U iftrue	S toString
U input	F create
U loadfoundtypescriptfile	F defined
U resetctxscanner	F flags
U rlap	F getinteger
U scratchcounter	T getters
U scratchdimen	F box
U scratchmuskip	F count
U scratchskip	F cstoken
U scratchtoks	F dimen
U secondoftwoarguments	F glue
U setfalsevalue	F macro
U setsectionblock	F meaning
U setupsystem	F skip
U startcolumns	F token
U starttabulate	F isdefined
U starttitle	F istoken
U startxtitle	F new
U stopcolumns	F pickup
U stoptabulate	F popmacro
U stoptitle	T presets
U stopxtitle	F pushmacro

F setinteger  
T setters  
  F box  
  F char  
  F count  
  F dimen  
  F glue  
  F lua  
  F macro  
  F skip  
T shortcuts  
  N close  
  F inspect  
  N open  
  F report  
  F scanargument  
  F scanargumentasis  
  F scanarray  
  F scanboolean  
  F scanbox  
  F scanbracketed  
  F scanbracketedasis  
  F scancardinal  
  F scanclose  
  F scancode  
  F scanconditional  
  F scancsname  
  F scandelimited  
  F scandimen  
  F scandimenargument  
  F scandimension

F scanglue  
F scangluespec  
F scangluevalues  
F scanhash  
F scanhbox  
F scaninteger  
F scanintegerargument  
F scankeyword  
F scankeywordcs  
F scanletters  
F scanlist  
F scannumber  
F scanopen  
F scanoptional  
F scanstring  
F scantable  
F scantokenlist  
F scantoks  
F scanvbox  
F scanverbatim  
F scanvtop  
F scanword  
F toboolean  
F todimen  
F tonumber  
F toString

D values

F tonumber

F toString

**values**      data table



# tracers (context)

<b>count</b>	function	<b>primitive</b>	function
<b>cs</b>	function	<b>prnterror</b>	function
<b>dimen</b>	function	<b>prntwarning</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>default</b>	function
<b>disable</b>	function
<b>done</b>	table
<b>dumphashtofile</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>savehash</b>	function
<b>show</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 replacensbp  
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
- F statistics

## lua table

- 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 unittotxml

## randomizer table

- F get
- F getnumber
- F getseed
- F popseed
- F pushseed
- F reuseseed
- F setseed
- F setseedi

## randomizers table

- F poisson

## sequencers table

- F appendaction
- F appendgroup
- F compile
- F disableaction
- F disablegroup
- F enableaction
- F enablegroup
- D functions
- F localize

- F new
- F nodeprocessor
- F prependaction
- F prependgroup
- F removeaction
- F replaceaction
- F setkind
- F tostring

**setters**                      table

- F disable
- F enable
- F initialize
- F list
- F new
- F register
- F report
- F reset
- F show

**stacker**                      table

- F new

**storage**                      table

- F allocate
- F checked
- F mark
- F marked
- F setinitializer
- F sparse

**streams**                      table

- F close
- F getposition
- F getsizes
- F getstring

- F look
- F open
- F openstring
- F read2dot14
- F read2dot4
- F readbyte
- F readbytes
- F readbytetable
- F readcardinal
- F readcardinal1
- 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 readinteger2
- F readinteger2le
- F readinteger3
- F readinteger3le
- F readinteger4
- F readinteger4le
- F readintegertable
- F readsignedbyte
- F readstring
- F setposition

F size

F skip

F skipbytes

F skiplong

F skipshort

## strings table

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>registerescapeline</b>	function	<b>writespace</b>	function
<b>registerescapepattern</b>	function		

# xcomplex (extra lua)

**I** function  
**\_\_add** function  
**\_\_div** function  
**\_\_eq** function  
**\_\_index** table

F I  
F \_\_add  
F \_\_div  
F \_\_eq  
T \_\_index  
F I  
F \_\_add  
F \_\_div  
F \_\_eq  
F \_\_mul  
S \_\_name  
F \_\_pow  
F \_\_sub  
F \_\_tostring  
F \_\_unm  
F abs  
F acos  
F acosh  
F arg  
F asin  
F asinh  
F atan  
F atanh  
F conj

F cos  
F cosh  
F exp  
F i  
F imag  
F log  
F new  
F pow  
F proj  
F real  
F sin  
F sinh  
F sqrt  
F tan  
F tanh  
F topair  
F tostring  
F \_\_mul  
S \_\_name  
F \_\_pow  
F \_\_sub  
F \_\_tostring  
F \_\_unm  
F abs  
F acos  
F acosh  
F arg  
F asin  
F asinh

F atan  
F atanh  
F conj  
F cos  
F cosh  
F exp  
F i  
F imag  
F log  
F new  
F pow  
F proj  
F real  
F sin  
F sinh  
F sqrt  
F tan  
F tanh  
F topair  
F toString  
**\_\_mul** function  
**\_\_name** string  
**\_\_pow** function  
**\_\_sub** 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 (extra lua)

**\_\_add**        function  
**\_\_band**     function  
**\_\_bor**       function  
**\_\_bxor**      function  
**\_\_div**       function  
**\_\_eq**        function  
**\_\_index**     table

F \_\_add  
F \_\_band  
F \_\_bor  
F \_\_bxor  
F \_\_div  
F \_\_eq  
T \_\_index  
F \_\_add  
F \_\_band  
F \_\_bor  
F \_\_bxor  
F \_\_div  
F \_\_eq  
F \_\_le  
F \_\_lt  
F \_\_mul  
S \_\_name  
F \_\_pow  
F \_\_shl  
F \_\_shr  
F \_\_sub  
F \_\_tostring

F \_\_unm  
F abs  
F band  
F bor  
F bxor  
F conj  
F copy  
F exp  
F getprecision  
F ln  
F log  
F max  
F min  
F minus  
F new  
F plus  
F pow  
F rotate  
F setprecision  
F shift  
F sqrt  
F tonumber  
F tostring  
F trim  
F \_\_le  
F \_\_lt  
F \_\_mul  
S \_\_name  
F \_\_pow

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

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

## xmath (extra lua)

<b>acos</b>	function
<b>acosh</b>	function
<b>asin</b>	function
<b>asinh</b>	function
<b>atan</b>	function
<b>atan2</b>	function
<b>atanh</b>	function
<b>cbrt</b>	function
<b>ceil</b>	function
<b>copysign</b>	function
<b>cos</b>	function
<b>cosh</b>	function
<b>deg</b>	function
<b>erf</b>	function
<b>erfc</b>	function
<b>exp</b>	function
<b>exp2</b>	function
<b>expm1</b>	function
<b>fabs</b>	function
<b>fdim</b>	function
<b>floor</b>	function
<b>fma</b>	function
<b>fmax</b>	function
<b>fmin</b>	function
<b>fmod</b>	function
<b>frexp</b>	function
<b>gamma</b>	function
<b>hypot</b>	function
<b>inf</b>	number

<b>isfinite</b>	function
<b>isinf</b>	function
<b>isnan</b>	function
<b>isnormal</b>	function
<b>j0</b>	function
<b>j1</b>	function
<b>jn</b>	function
<b>ldexp</b>	function
<b>lgamma</b>	function
<b>log</b>	function
<b>log10</b>	function
<b>log1p</b>	function
<b>log2</b>	function
<b>logb</b>	function
<b>modf</b>	function
<b>nan</b>	number
<b>nearbyint</b>	function
<b>nextafter</b>	function
<b>pi</b>	number
<b>pow</b>	function
<b>rad</b>	function
<b>remainder</b>	function
<b>remquo</b>	function
<b>round</b>	function
<b>scalbn</b>	function
<b>sin</b>	function
<b>sinh</b>	function
<b>sqrt</b>	function
<b>tan</b>	function

**tanh**      function  
**tgamma**    function  
**trunc**     function

**y0**        function  
**y1**        function  
**yn**        function

## xml (context)

<b>addentitiesdoctype</b>	function
<b>addspecialcode</b>	function
<b>after</b>	function
<b>all</b>	function
<b>applylpath</b>	function
<b>applyselector</b>	function
<b>assign</b>	function
<b>attribute</b>	function
<b>badinclusions</b>	function
<b>before</b>	function
<b>body</b>	function
<b>builtinentities</b>	table
B amp	
B apos	
B gt	
B lt	
B quot	
<b>cdata</b>	function
<b>cdatatotext</b>	function
<b>checkbom</b>	function
<b>checkerror</b>	function
<b>checknamespace</b>	function
<b>checkns</b>	function
<b>cleansed</b>	function
<b>collect</b>	function
<b>collect_elements</b>	function
<b>collect_tags</b>	function
<b>collect_texts</b>	function
<b>collected</b>	function

<b>collecttexts</b>	function
<b>compactelement</b>	function
<b>content</b>	function
<b>convert</b>	function
<b>copy</b>	function
<b>count</b>	function
<b>cprint</b>	function
<b>css</b>	table
F applyselector	
F colorspecification	
F dimension	
F family	
F fontspecification	
F mappedstylevalue	
F padding	
F size	
F style	
F stylevalue	
F todimension	
F variant	
F weight	
<b>defaulthandlers</b>	table
D file	
D parsedxml	
D string	
D tex	
D texline	
D texspace	
D verbose	

<b>defaultprotocol</b>	string
<b>delete</b>	function
<b>delete_element</b>	function
<b>despecialized</b>	function
<b>each</b>	function
<b>each_element</b>	function
<b>elements</b>	function
<b>elementtocdata</b>	function
<b>empty</b>	function
<b>entities</b>	data table
<b>erase</b>	function
<b>errorhandler</b>	function
<b>escaped</b>	function
<b>expressions</b>	table

- F attribute
- F boolean
- F child
- F contains
- F count
- F error
- F find
- F hasclass
- F idstring
- F lower
- F name
- F number
- F oneof
- F print
- F quit
- F tag
- F text
- F undefined

F upper	
<b>fillin</b>	function
<b>filter</b>	function
<b>finalizers</b>	table

- F paragraphs
- T tex
- F all
- F attribute
- F chainattribute
- F chainpath
- F command
- F concat
- F concatrange
- F context
- F count
- F ctxtext
- F default
- F depth
- F first
- F function
- F index
- F last
- F lettered
- F lower
- F lowerall
- F match
- F name
- F param
- F parameter
- F position
- F reverse
- F stripped

F tag  
 F tags  
 F text  
 F upper  
 F upperall  
 F xml  
 T xml  
 F all  
 F att  
 F attribute  
 F attributes  
 F cdata  
 F chainattribute  
 F count  
 F default  
 F elements  
 F empty  
 F first  
 F function  
 F index  
 F last  
 F lowerall  
 F match  
 F name  
 F position  
 F reverse  
 F table  
 F tag  
 F tags  
 F text  
 F texts  
 F upperall

<b>first</b>	function
<b>found</b>	function
<b>functions</b>	table
F classes	
F hasclass	
<b>getbuffer</b>	function
<b>gethandlers</b>	function
<b>gethandlersfunction</b>	function
<b>helpers</b>	table
F recursetext	
<b>include</b>	function
<b>inclusion</b>	function
<b>inclusions</b>	function
<b>index</b>	function
<b>inheritattributes</b>	function
<b>inheritedconvert</b>	function
<b>inject</b>	function
<b>inject_element</b>	function
<b>inject_element_after</b>	function
<b>inject_element_before</b>	function
<b>injectafter</b>	function
<b>injectbefore</b>	function
<b>insert</b>	function
<b>insert_element</b>	function
<b>insert_element_after</b>	function
<b>insert_element_before</b>	function
<b>insertafter</b>	function
<b>insertbefore</b>	function
<b>insertcdata</b>	function
<b>insertcomment</b>	function
<b>inspect</b>	function
<b>is_valid</b>	function

<b>kind</b>	function
<b>last</b>	function
<b>lastmatch</b>	function
<b>load</b>	function
<b>lpath</b>	function
<b>lpathcached</b>	function
<b>lpathcalls</b>	function
<b>lshow</b>	function
<b>makestandalone</b>	function
<b>match</b>	function
<b>name</b>	function
<b>newhandlers</b>	function
<b>nodesettostring</b>	function
<b>originalload</b>	function
<b>package</b>	function
<b>parent</b>	function
<b>parsedentitylpeg</b>	userdata
<b>pihandlers</b>	table
F injector	
F tex	
<b>placeholders</b>	table
F unknown_any_entity	
F unknown_dec_entity	
F unknown_hex_entity	
<b>popmatch</b>	function
<b>position</b>	function
<b>privatecodes</b>	table
<b>privatetoken</b>	function
<b>process</b>	function
<b>process_attributes</b>	function
<b>process_elements</b>	function
<b>processattributes</b>	function

<b>profiled</b>	table
<b>pure</b>	function
<b>pushmatch</b>	function
<b>raw</b>	function
<b>registerentity</b>	function
<b>registerns</b>	function
<b>reindex</b>	function
<b>remap_name</b>	function
<b>remap_namespace</b>	function
<b>remap_tag</b>	function
<b>remapname</b>	function
<b>remapnamespace</b>	function
<b>remaptag</b>	function
<b>rename</b>	function
<b>renamespace</b>	function
<b>reparsedentitylpeg</b>	userdata
<b>replace</b>	function
<b>replace_element</b>	function
<b>resetinjectors</b>	function
<b>resolvns</b>	function
<b>root</b>	function
<b>save</b>	function
<b>selection</b>	function
<b>separate</b>	function
<b>serialize</b>	function
<b>serializetotext</b>	function
<b>setcdata</b>	function
<b>setcomment</b>	function
<b>sethandlersfunction</b>	function
<b>setinjectors</b>	function
<b>setproperty</b>	function
<b>settings</b>	function



**specialcodes**            table

S "

S #

S \$

S %

S &

S '

S <

S >

S \

S {

S |

S }

S ~

**specialhandler**        table

**sprint**                function

**string**                function

**strip**                 function

**strip\_whitespace**    function

**stripelement**        function

**stripleadingspaces**   function

**table**

**text**

**textonly**

**texttocdata**

**tocdata**

**toelement**

**tostring**

**totable**

**toxml**

**tprint**

**traverse**

**unescaped**

**unescapedentitylpeg**

**unprivatized**

**unspecialized**

**wipe**

**withelement**

**withelements**

**wrap**

**xmlns**

function

function

function

function

function

function

function

function

function

function

function

function

userdata

function

function

function

function

function

function

table

## 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