

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

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

# global (alias: \_G)

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

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

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

# attributes (context)

**applyoverloads** function

**colorintents** table

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

**colors** table

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

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

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

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

F start  
F stop  
B supported  
D values

# backends (context)

**closeout** function

**codeinjections** table

F boxresourcedimensions

F registerboxresource

F restoreboxresource

**current** string

**defaults** table

T codeinjections

F getpagedimensions

F getpageorigin

F lmtxmode

F setpagedimensions

F setpageorigin

T nodeinjections

T registrations

D tables

**getcallbackstate** function

**included** table

B context

B date

B id

B metadata

B pdf

**install** function

**latelua** function

**nodeinjections** table

**nothing** function

**openout** function

**pdf** table

T codeinjections

F addbookmarks

F analyzenormalsymbol

F analyzesymbol

F attachmentid

F bitmap

F clonefield

F copyimage

F definefield

F definefieldset

F defineviewerlayer

F embedfile

F embedimage

F enabletags

F exportformdata

F fieldsurrounding

F flushmergelayer

F getbookmarks

F getdefaultfieldvalue

F getfieldcategory

F getfieldset

F getformatoption

F getidentityvariable

F getinfo

F getpreviewfigure

F insertrenderingwindow

F maptag

F mergebookmarks

F mergecomments

F mergefields

F mergereferences

F mergeviewerlayers

F newimage

F prerollreference

F presetsymbol

F presetsymbollist

F processrendering

F registerdocumentcloseaction

F registerdocumentopenaction

F registeredsymbol

F registerpagecloseaction

F registerpageopenaction

F registersymbol

F scanningimage

F setattachmentsupport

F setfieldcalculationset

F setfigurealternative

F setfigurecolorspace

F setfiguremask

F setformat

F setformsmethod

F setpagetransition

F settaggingsupport



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

## 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

	F define
	F hassomecontent
	F next
	F place
	F reset
	F save
<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

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



## callback (basic tex)

**find**        function  
**known**     function  
**list**        function

**register**   overloaded function  
**usage**       function

# callbacks (context)

**freeze** function

**functions** table

F process\_rule

F start\_page\_number

F stop\_page\_number

**known** function

**list** data table

**pop** function

**push** function

**register** function

**report** function

**supported** table

B append\_to\_vlist\_filter

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

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

## chemistry (context)

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

## containers (context)

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

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

## converters (context)

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



**uchexnumbers**

**upper**

**verbose**

D data

function

function

table

F translate

**weekday**

**word**

**words**

function

function

function

## coroutine (basic lua)

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

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

# ctxrunner (context)

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

# data (context)

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

## debug (basic lua)

**getinfo** function

**sethook** function

**traceback** function

## dir (context)

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

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

## directives (context)

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

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

# document (context)

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



documentdata (context)

**variable** function

# drivers (context)

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

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

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

## environment (context)

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

## experiments (context)

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

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

# figures (context)

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

**setorder**  
**setpaths**

function  
function

**suffixes**  
**used**

data table  
data table

## file (basic lua)

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



## fio (extra lua)

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

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

# floats (context)

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

## font (basic tex)

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

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

# fonts (context)

## **analyzers**      table

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

## **checkers**      table

- F getmissing
- F missing
- F placeholder

## **cid**      table

- F getmap
- F loadfile

## **collections**      table

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

## **constructors**      table

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

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

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

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

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

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

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



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

**current**           function  
**currentid**        function  
**definers**         table

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

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

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

**enhanceid**        function  
**expansions**       data table  
**formats**          data table  
**getalternate**     function  
**getindices**       function  
**getkern**          function  
**getmultiple**      function  
**getsubstitution** function  
**getters**          table

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

**goodies**          table

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

## handlers table

## hashes table

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

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

## helpers table

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

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

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

**specifiers**            table

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

D variants

**symbols**            table

T emoji  
F checked  
F resolved  
F uselibrary

**tables**            table

D data  
F savefont  
F saveoriginal

**tracers**            table

**treatments**        table

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

**typefaces**        table

# functions (context)

**dummy** function

# graphics (context)

## backgrounds table

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

## bitmaps table

- F flush
- F new

F placeholder

F tocontext

## identifiers table

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

## identify function

## gzip (extra lua)

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

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

# images (context)

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

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

- B none
- B trim

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

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

**wrap** function



# interactions (context)

## **attachments** data table

### **fields** table

F clone  
F define  
F defineset  
F insert

### **general** table

F getidentity  
F setupidentity

### **help** table

F collect  
F reference  
F register

### **javascripts** table

F addtopreamble  
F code  
D codes  
F flushpreambles

D functions

D preambles

F setpreamble

F storecode

F storepreamble

F usepreamblenow

F usescripts

## **linkedList**s data table

### **pages** table

F setpagetransition  
F setupcanvas

### **references** table

F setcloseddocument  
F setclosepage  
F setopendocument  
F setopenpage

## **renderings** data table

## **soundclips** data table

# interfaces (context)

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

## io (basic lua)

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

# job (context)

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

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

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

**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)

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

F check

T data

F disable

F enable

T enablers

B enables

F found

F load

T methods

N threshold



# layouts (context)

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

## 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>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>setformatters</b>	function
<b>categories</b>	function	<b>setlogfile</b>	function
<b>direct</b>	function	<b>setmessenger</b>	function
<b>disable</b>	function	<b>setprocessor</b>	function
<b>enable</b>	function	<b>settarget</b>	function
<b>finalactions</b>	function	<b>settimedlog</b>	function
<b>flush</b>	function	<b>settranslations</b>	function
<b>loggingerrors</b>	function	<b>show</b>	function
<b>messenger</b>	function	<b>start_page_number</b>	function
<b>new</b>	function	<b>start_run</b>	function
<b>newline</b>	function	<b>starterrorlogging</b>	function
<b>poptarget</b>	function	<b>startfilelogging</b>	function
<b>private</b>	table	<b>status</b>	function
F enablepagetiming		<b>stop_page_number</b>	function
F getpagetiming		<b>stoperrorlogging</b>	function
<b>pushtarget</b>	function	<b>stopfilelogging</b>	function
<b>registerfinalactions</b>	function	<b>subdirect</b>	function
<b>report</b>	function	<b>subreport</b>	function
<b>reporter</b>	function	<b>texerrormessage</b>	function
<b>setformats</b>	function	<b>writer</b>	function

# lpdf (context)

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

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

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



## lpeg (basic lua)

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

# lua (basic tex)

<b>bytecode</b>	table
<b>bytedata</b>	data table
<b>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>getpreciseseconds</b>	function
<b>getpreciseticks</b>	function
<b>getruntime</b>	function
<b>getstacktop</b>	function
<b>getstartupfile</b>	function
<b>getversion</b>	function
<b>lastbytecode</b>	number

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

# luatex (context)

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

# lxml (context)

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

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

## math (basic lua)

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

# mathematics (context)

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

## md5 (extra lua)

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

**sum**     function  
**sumHEX** function  
**sumhexa** function



# metapost (context)

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

N until		<b>getparameter</b>	function
N void		<b>getparameterset</b>	function
N with		<b>getstatistics</b>	function
N within		<b>gettext</b>	function
N write		<b>graphic</b>	function
<b>colorinitializer</b>	function	<b>graphic_base_pass</b>	function
<b>comment</b>	function	<b>includesvgbuffer</b>	function
<b>convert</b>	function	<b>includesvgfile</b>	function
<b>currentmpx</b>	function	<b>installplugin</b>	function
<b>currentmpxstatus</b>	function	<b>isobject</b>	function
<b>defaultformat</b>	string	<b>lastlog</b>	string
<b>defaultinstance</b>	string	<b>load</b>	function
<b>defaultmethod</b>	string	<b>maketext</b>	function
<b>directrun</b>	function	<b>metafun</b>	table
<b>escaped</b>	function	F interpolate	
<b>exectime</b>	table	F topath	
<b>extensiondata</b>	data table	<b>mptopdf</b>	table
<b>filterclippath</b>	function	F convertmpstopdf	
<b>flush</b>	function	N nofconverted	
<b>flushers</b>	table	<b>n</b>	number
T pdf		<b>nofruns</b>	number
F comment		<b>nofscriptruns</b>	function
F flushfigure		<b>nvformat</b>	function
F startfigure		<b>pdfliterals</b>	function
F stopfigure		<b>pluginactions</b>	function
F textfigure		<b>popformat</b>	function
<b>flushliteral</b>	function	<b>popscriptrunner</b>	function
<b>flushnormalpath</b>	function	<b>popvariable</b>	function
<b>flushreset</b>	function	<b>popvariables</b>	function
<b>fonts</b>	table	<b>preparetexttextsdata</b>	function
F define		<b>process</b>	function
T flusher		<b>processing</b>	function
F flushfigure		<b>processplugins</b>	function
F startfigure		<b>processspecial</b>	function
F stopfigure		<b>properties</b>	table
N instances		<b>pushformat</b>	function
F process		<b>pushscriptrunner</b>	function
<b>format_number</b>	function	<b>pushvariable</b>	function
<b>format_string</b>	function	<b>pushvariables</b>	function
<b>formatnumber</b>	function	<b>reducetogray</b>	boolean
<b>getclippath</b>	function	<b>registerscript</b>	function
<b>getextensions</b>	function	<b>remappedtext</b>	function
<b>getextradata</b>	function	<b>remaptext</b>	function
<b>getjobdata</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 vacuum	
<b>typesvgpage</b>	function
<b>unload</b>	function
<b>untagvariable</b>	function
<b>variables</b>	table

## mime (extra lua)

**b64** function

**decode** function

**decodet** table

F base64

F quoted-printable

**dot** function

**encode** function

**encodet** table

F base64

F quoted-printable

**eol** function

**normalize** function

**qp** function

**qpwrp** function

**report** function

**stuff** function

**unb64** function

**unqp** function

**wrap** function

**wrapt** table

F base64

F default

F quoted-printable

F text

**wrp** function

## mp (context)

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

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

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

## mplib (extra tex)

<b>execute</b>	function	<b>inject_transform</b>	function
<b>finder</b>	function	<b>inject_whatever</b>	function
<b>finders</b>	table	<b>new</b>	overloaded function
F file		<b>pen_info</b>	function
F mpstemplate		<b>realtime logging</b>	boolean
<b>finish</b>	function	<b>scan_boolean</b>	function
<b>getcallbackstate</b>	function	<b>scan_cmykcolor</b>	function
<b>getcodes</b>	function	<b>scan_color</b>	function
<b>getfields</b>	function	<b>scan_expression</b>	function
<b>getstates</b>	function	<b>scan_integer</b>	function
<b>getstatistics</b>	function	<b>scan_next</b>	function
<b>getstatus</b>	function	<b>scan_number</b>	function
<b>gettype</b>	function	<b>scan_numeric</b>	function
<b>gettypes</b>	function	<b>scan_pair</b>	function
<b>inject_boolean</b>	function	<b>scan_path</b>	function
<b>inject_cmykcolor</b>	function	<b>scan_pen</b>	function
<b>inject_color</b>	function	<b>scan_string</b>	function
<b>inject_integer</b>	function	<b>scan_symbol</b>	function
<b>inject_number</b>	function	<b>scan_token</b>	function
<b>inject_numeric</b>	function	<b>scan_transform</b>	function
<b>inject_pair</b>	function	<b>solve_path</b>	function
<b>inject_path</b>	function	<b>version</b>	function
<b>inject_string</b>	function		



# noads (context)

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

## node (basic tex)

<b>check_discretionaries</b>	function	F getfield
<b>check_discretionary</b>	function	F getfont
<b>copy</b>	function	F getglue
<b>copy_list</b>	function	F getglyphdata
<b>count</b>	function	F getglyphdimensions
<b>current_attributes</b>	function	F getheight
<b>dimensions</b>	function	F getid
<b>direct</b>	table	F getindex
F check_discretionaries		F getkern
F check_discretionary		F getkerndimension
F copy		F getlanguage
F copy_list		F getleader
F copy_only		F getlist
F count		F getnext
F current_attributes		F getnormalizedline
F dimensions		F getnucleus
F effective_glue		F getoffsets
F end_of_math		F getoptions
F exchange		F getorientation
F find_attribute		F getparstate
F find_attribute_range		F getpenalty
F find_node		F getpost
F first_glyph		F getpre
F flatten_discretionaries		F getprev
F flush_list		F getproperty
F flush_node		F getreplace
F free		F getscript
F get_attribute		F getshift
F get_attributes		F getstate
F get_properties_table		F getsub
F get_synctex_fields		F getsubpre
F getattributelist		F getsubtype
F getboth		F getsup
F getbox		F getsuppre
F getchar		F gettotal
F getdata		F getwhd
F getdepth		F getwidth
F getdirection		F has_attribute
F getdisc		F has_dimensions
F getexpansion		F has_field
F getfam		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 setsup  
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)

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

F cleanupbox		<b>is_zero_glue</b>	function
F cleanuppape		<b>kerncodes</b>	data table
F export		<b>kerning</b>	function
F finalizebox		<b>keys</b>	table
F flatten		T Whatsit	
F flattenline		<b>last_node</b>	function
F migrate		<b>leftmarginwidth</b>	function
F protectglyphs		<b>length</b>	function
F stripping		<b>ligaturing</b>	function
F textbackgrounds		<b>linefillers</b>	table
F unprotectglyphs		D data	
<b>has_attribute</b>	function	F define	
<b>has_field</b>	function	F enable	
<b>has_glyph</b>	function	F filler	
<b>hpack</b>	function	F handler	
<b>hyphenating</b>	function	<b>lines</b>	table
<b>idsandsubtypes</b>	function	T boxed	
<b>idstousing</b>	function	F register	
<b>injections</b>	table	F setup	
F copy		F stage_one	
F getligaindex		F stage_two	
F getthreshold		D data	
F handler		F finalize	
F installgetspaceboth		F number	
F installnewkern		N scratchbox	
F isspace		<b>link</b>	function
F keepcounts		<b>linked</b>	function
F reset		<b>list</b>	function
F resetcounts		<b>listcodes</b>	data table
F setcursive		<b>listtoutf</b>	function
F setkern		<b>literalvalues</b>	data table
F setligaindex		<b>load</b>	function
F setmark		<b>locate</b>	function
F setmove		<b>markers</b>	table
F setposition		F get	
F setspacekerns		<b>mathcodes</b>	data table
<b>insert_after</b>	function	<b>maxboxwidth</b>	function
<b>insert_before</b>	function	<b>migrations</b>	table
<b>insert_list_after</b>	function	F setinserts	
<b>installattributehandler</b>	function	F setmarks	
<b>is_direct</b>	function	<b>mlist_to_hlist</b>	function
<b>is_display_math</b>	function	<b>new</b>	function
<b>is_node</b>	function	<b>noadcodes</b>	data table
<b>is_nut</b>	function	<b>noadoptions</b>	table

N axis		F flush_node
N exact		F free
N left		F fullhpack
N middle		F get_components
N no_axis		F getattr
N right		F getattribute
N set		F getattributelist
N unused_1		F getattrlist
N unused_2		F getattrs
<b>nodecodes</b>	<b>data table</b>	F getboth
<b>nopts</b>	<b>function</b>	F getbox
<b>nuts</b>	<b>table</b>	F getboxglue
F append		F getchar
F apply		F getcomponents
F applyvisuals		F getdata
F check_discretionaries		F getdepth
F concat		F getdirection
F copy		F getdisc
F copy_list		F getdiscretionary
F copy_no_components		F getexpansion
F copy_node		F getfam
F copy_only		F getfield
F copy_only_glyphs		F getfont
F copy_properties		F getglue
F copyvisual		F getglyphdata
F count		F getglyphdimensions
F count_components		F getheight
F countall		F getid
F current_attributes		F getkern
F delete		F getkerndimension
F dimensions		F getlang
F dirdimensions		F getlanguage
F effective_glue		F getleader
F end_of_math		F getlist
F exchange		F getnext
F find_attribute		F getnormalizedline
F first_glyph		F getnucleus
F firstcharacter		F getoffsets
F firstcharinbox		F getoptions
F firstglyph		F getorientation
F flatten_discretionaries		F getpenalty
F flush		F getpost
F flush_components		F getpre
F flush_list		F getprev

F getprop  
F getreplace  
F getruledata  
F getscript  
F getshift  
F getstate  
F getsub  
F getsubpre  
F getsubtype  
F getsup  
F getsuppre  
F getsurround  
F getsynctexfields  
F gettotal  
F getvalue  
F getwhd  
F getwidth  
F has\_attribute  
F has\_dimensions  
F has\_field  
F has\_glyph  
F hpack  
F hyphenating  
F insert\_after  
F insert\_before  
F insert\_list\_after  
F is\_display\_math  
F is\_node  
F is\_nut  
F is\_zero\_glue  
F ischar  
F isdone  
F isglyph  
F kerning  
F last\_node  
F leftmarginwidth  
F length  
F ligaturing  
F link  
F linked  
F locate  
F migrate  
F mlist\_to\_hlist  
F nestedtracedslide

F new  
T pool  
F accent  
F baselineskip  
F boundary  
F choice  
F cleanup  
F delim  
F delimiter  
F direction  
F directliteral  
F disc  
F emptyrule  
F fence  
F fontkern  
F fraction  
F glue  
F gluespec  
F glyph  
F hlist  
F indentskip  
F italickern  
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 set_components
F rule	F setattr
F save	F setattribute
F savepos	F setattributelist
F setmatrix	F setattributes
F shrink	F setattrlist
F stock	F setattrs
F stretch	F setboth
F subbox	F setbox
F submlist	F setboxglue
F temp	F setchar
F usage	F setcomponents
T userids	F setdata
N margins.inline	F setdepth
N splitters.one	F setdirection
N splitters.two	F setdisc
F usernode	F setdiscretionary
F userrule	F setexpansion
F vlist	F setfam
F wordboundary	F setfield
F prepend	F setfont
F processranges	F setglue
F processwords	F setglyphdata
F protect_glyph	F setheight
F protect_glyphs	F setkern
F protrusion_skipable	F setlang
F rangedimensions	F setlanguage
F rawprop	F setleader
F reference	F setlink
F rehpak	F setlist
F remove	F setnext
F repackhlist	F setnucleus
F replace	F setoffsets
F reverse	F setoptions
F rightmarginwidth	F setorientation
T rules	F setparproperty
T ruleactions	F setpenalty
F box	F setpost
F draw	F setpre
F fill	F setprev
F mp	F setprop
F stroke	F setreplace
F userrule	F setruledata
F set_attribute	F setscript

F setshift  
 F setsplit  
 F setstate  
 F setsub  
 F setsubpre  
 F setsubtype  
 F setup  
 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 to vbox  
   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**  
**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**

function  
 data table  
 data table  
 table

function

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

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

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

## number (context)

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

## objects (context)

<b>data</b>	table
<b>dimensions</b>	function
<b>found</b>	function
<b>n</b>	number

<b>page</b>	function
<b>reference</b>	function
<b>register</b>	function
<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)

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

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

## package (basic lua)

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

# pagebuilders (context)

## **columnsets** table

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

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

## **injections** table

F flushafter  
F flushbefore  
F save

## **mixedcolumns** table

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

## pdf (basic tex)

`immediateobj` function

## pdf (extra tex)

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

# physics (context)

**units** table

F registerunit

D tables

## pngdecode (extra tex)

**applyfilter** function

**expand** function

**interlace** function

**splitmask** function

**tocmyk** function

# publications (context)

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



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

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

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

## regimes (context)

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

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

# resolvers (context)

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

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

<b>variableofformatorsuffix</b>	function
<b>wildcardpattern</b>	function

## sandbox (context)

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

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



# scripts (context)

**autofontfeature** table

F disable

F enable

F handler

**colors** data table

**decomposehangul** function

**defaults** table

N inter\_char\_half\_shrink\_factor

N inter\_char\_half\_stretch\_factor

N inter\_char\_hangul\_penalty

N inter\_char\_quarter\_shrink\_factor

N inter\_char\_quarter\_stretch\_factor

N inter\_char\_shrink\_factor

N inter\_char\_stretch\_factor

N inter\_word\_stretch\_factor

**getdata** function

**getinjector** function

**getsplitter** function

**getstatus** function

**handlers** data table

**hash** table

**injectors** data table

**inserters** table

F nobreakspace\_after

F nobreakspace\_before

F space\_after

F space\_before

F zerowidthspace\_after

F zerowidthspace\_before

**installdataset** function

**installmethod** function

**numbertodataset** data table

**numbertohandler** data table

**reset** function

**set** function

**setstatus** function

**splitters** data table

## set (context)

**contains** function

**create** function

**tolist** function

**tonumber** function

**totable** function

## sha2 (extra lua)

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

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

## sio (extra lua)

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

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

# socket (extra lua)

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

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

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

# sorters (context)

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

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

## statistics (context)

<b>benchmarktimer</b>	function
<b>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>getmarksstate</b>	function
<b>getcallbackstate</b>	function	<b>getneststate</b>	function
<b>getconstants</b>	function	<b>getnodestate</b>	function
<b>geterrorlinestate</b>	function	<b>getparameterstate</b>	function
<b>geterrorstate</b>	function	<b>getpoolstate</b>	function
<b>getexpandstate</b>	function	<b>getreadstate</b>	function
<b>getextrastate</b>	function	<b>getsavestate</b>	function
<b>getfilestate</b>	function	<b>getsparsestate</b>	function
<b>getfontstate</b>	function	<b>getstringstate</b>	function
<b>gethalferrorlinestate</b>	function	<b>gettexstate</b>	function
<b>gethashstate</b>	function	<b>gettokenstate</b>	function
<b>getinputstate</b>	function	<b>getwarningstate</b>	function
<b>getlanguagestate</b>	function	<b>iocodes</b>	table
<b>getlookupstate</b>	function	<b>list</b>	function
<b>getluastate</b>	function	<b>resetmessages</b>	function

## storage (context)

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

## streams (context)

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

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

## string (basic lua)

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

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

# structures (context)

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

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

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

## pages table

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

## references table

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

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



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

## registers

- F analyze
- D collected
- F compare

## table

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

## sections

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

## table

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

F setsorting

F setsynonym

F settablecell

F settabulatecell

F settagdelimitedsymbol

F settagssentencesymbol

F setupexport

F setuserproperties

D specifications

F start

F stop

F strip

D taglist

T usewithcare

T images

## table (basic lua)

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

# tex (basic tex)

<b>attribute</b>	table	<b>getcount</b>	function
<b>badness</b>	function	<b>getdelcode</b>	function
<b>box</b>	table	<b>getdelcodes</b>	function
<b>boxresources</b>	table	<b>getdimen</b>	function
F getbox		<b>getdimensionvalue</b>	function
F getdimensions		<b>geterrorvalues</b>	function
F save		<b>getflagvalues</b>	function
F use		<b>getfontoffamily</b>	function
<b>catcode</b>	table	<b>getfrozenparvalues</b>	function
<b>chardef</b>	function	<b>getglue</b>	function
<b>conditionals</b>	data table	<b>getglyphdata</b>	function
<b>constants</b>	data table	<b>getglyphoptionvalues</b>	function
<b>count</b>	table	<b>getglyphscript</b>	function
<b>cprint</b>	function	<b>getglyphstate</b>	function
<b>ctdcatcodes</b>	number	<b>getgroupvalues</b>	function
<b>ctxcatcodes</b>	number	<b>gethelptext</b>	function
<b>definefont</b>	function	<b>gethyphenationvalues</b>	function
<b>delcode</b>	table	<b>getintegervalue</b>	function
<b>dimen</b>	table	<b>getinteraction</b>	function
<b>dimensiondef</b>	function	<b>getiovalues</b>	function
<b>directives</b>	data table	<b>getlargestusedmark</b>	function
<b>enableprimitives</b>	function	<b>getlccode</b>	function
<b>error</b>	function	<b>getlinedir</b>	function
<b>experiments</b>	data table	<b>getlist</b>	function
<b>extraprimitives</b>	function	<b>getlocallevel</b>	function
<b>fatalerror</b>	function	<b>getmark</b>	function
<b>flagcodes</b>	data table	<b>getmath</b>	function
<b>fontidentifier</b>	function	<b>getmathcode</b>	function
<b>fontname</b>	function	<b>getmathcodes</b>	function
<b>forcehmode</b>	function	<b>getmathdir</b>	function
<b>forcesynctexline</b>	function	<b>getmodevalues</b>	function
<b>forcesynctextag</b>	function	<b>getmuglue</b>	function
<b>fprint</b>	function	<b>getmuskip</b>	function
<b>frozenparcodes</b>	data table	<b>getnest</b>	function
<b>get</b>	function	<b>getnormalizevalues</b>	function
<b>getattribute</b>	function	<b>getoutputactive</b>	function
<b>getbox</b>	function	<b>getpagesstate</b>	function
<b>getboxdir</b>	function	<b>getpardir</b>	function
<b>getboxresourcebox</b>	function	<b>getsfcode</b>	function
<b>getboxresourcecdimensions</b>	function	<b>getskip</b>	function
<b>getcatcode</b>	function	<b>getsynctexline</b>	function

<b>getsynctexmode</b>	function	<b>muskip</b>	table
<b>getsynctextag</b>	function	<b>nest</b>	table
<b>gettextdir</b>	function	<b>nilcatcodes</b>	number
<b>gettoks</b>	function	<b>normalizecodes</b>	data table
<b>getuccode</b>	function	<b>notcatcodes</b>	number
<b>glue</b>	table	<b>number</b>	function
<b>glyphoptioncodes</b>	data table	<b>poplocal</b>	function
<b>groupcodes</b>	data table	<b>primitives</b>	function
<b>hashtokens</b>	function	<b>print</b>	function
<b>hyphenationcodes</b>	data table	<b>prtcacodes</b>	number
<b>ifs</b>	data table	<b>pushlocal</b>	function
<b>inimatcodes</b>	number	<b>quitlocal</b>	function
<b>integerdef</b>	function	<b>quittoks</b>	function
<b>isattribute</b>	function	<b>resetparagraph</b>	function
<b>isbox</b>	function	<b>romannumeral</b>	function
<b>iscount</b>	overloaded function	<b>round</b>	function
<b>isdefined</b>	function	<b>runlocal</b>	function
<b>isdimen</b>	overloaded function	<b>runtoks</b>	function
<b>isglue</b>	function	<b>saveboxresource</b>	function
<b>ismuglue</b>	function	<b>scale</b>	function
<b>ismuskip</b>	overloaded function	<b>scantoks</b>	function
<b>isprintable</b>	function	<b>set</b>	function
<b>isskip</b>	overloaded function	<b>setattribute</b>	function
<b>istoken</b>	function	<b>setbox</b>	function
<b>istoks</b>	function	<b>setboxdir</b>	function
<b>lastnodetype</b>	function	<b>setcatcode</b>	function
<b>lccode</b>	table	<b>setcount</b>	function
<b>linebreak</b>	function	<b>setdelcode</b>	function
<b>lists</b>	table	<b>setdimen</b>	function
<b>luacatcodes</b>	number	<b>setdimensionvalue</b>	function
<b>magicconstants</b>	table	<b>setglue</b>	function
N maxdimen		<b>setglyphdata</b>	function
N running		<b>setglyphscript</b>	function
N trueinch		<b>setglyphstate</b>	function
<b>mathchardef</b>	function	<b>setintegervalue</b>	function
<b>mathcode</b>	table	<b>setinteraction</b>	function
<b>modelevels</b>	table	<b>setlccode</b>	function
N horizontal		<b>setlinedir</b>	function
N math		<b>setlist</b>	function
N unset		<b>setmath</b>	function
N vertical		<b>setmathcode</b>	function
<b>modes</b>	data table	<b>setmathdir</b>	function
<b>mprint</b>	function	<b>setmuglue</b>	function
<b>muglue</b>	table	<b>setmuskip</b>	function

<b>setnest</b>	function	<b>takebox</b>	function
<b>setpardir</b>	function	<b>texcatcodes</b>	number
<b>setsfcode</b>	function	<b>toks</b>	table
<b>setskip</b>	function	<b>tonumber</b>	function
<b>setsynctexline</b>	function	<b>toscaled</b>	function
<b>setsynctexmode</b>	function	<b>tpacatcodes</b>	number
<b>setsynctextag</b>	function	<b>tpbcatcodes</b>	number
<b>settexmdir</b>	function	<b>tprint</b>	function
<b>settoks</b>	function	<b>trackers</b>	data table
<b>setuccode</b>	function	<b>triggerbuildpage</b>	function
<b>sfcode</b>	table	<b>txtcatcodes</b>	number
<b>shipout</b>	function	<b>type</b>	function
<b>showcontext</b>	function	<b>uccode</b>	table
<b>skip</b>	table	<b>uprint</b>	function
<b>sp</b>	function	<b>useboxresource</b>	function
<b>splitbox</b>	function	<b>vrbcacodes</b>	number
<b>sprint</b>	function	<b>write</b>	function
<b>systemmodes</b>	data table		

## texconfig (basic tex)

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



## texio (basic tex)

**closeinput** function

**terminal** function

**write** function

**write\_nl** function

# token (basic tex)

<b>accessors</b>	table	<b>get_tok</b>	function
F active		<b>get_tolerant</b>	function
F cmd		<b>getcommandid</b>	function
F cmdchrsc		<b>getcommandvalues</b>	function
F cmdname		<b>getfunctionvalues</b>	function
F command		<b>getprimitives</b>	function
F csname		<b>gobble</b>	function
F expandable		<b>gobble_dimen</b>	function
F frozen		<b>gobble_integer</b>	function
F index		<b>is_defined</b>	function
F name		<b>is_next_char</b>	function
F protected		<b>is_token</b>	function
F range		<b>new</b>	function
<b>create</b>	function	<b>peek_next</b>	function
<b>expand</b>	function	<b>peek_next_char</b>	function
<b>expand_macro</b>	function	<b>peek_next_expanded</b>	function
<b>future_expand</b>	function	<b>pop_macro</b>	function
<b>get_active</b>	function	<b>push_macro</b>	function
<b>get_cmdchrsc</b>	function	<b>put_back</b>	function
<b>get_cmdname</b>	function	<b>put_next</b>	function
<b>get_command</b>	function	<b>save_lua</b>	function
<b>get_csname</b>	function	<b>scan_argument</b>	function
<b>get_cstoken</b>	function	<b>scan_box</b>	function
<b>get_dimension</b>	function	<b>scan_cardinal</b>	function
<b>get_expandable</b>	function	<b>scan_char</b>	function
<b>get_fields</b>	function	<b>scan_cmdchr</b>	function
<b>get_flags</b>	function	<b>scan_cmdchr_expanded</b>	function
<b>get_frozen</b>	function	<b>scan_code</b>	function
<b>get_id</b>	function	<b>scan_csname</b>	function
<b>get_immutable</b>	function	<b>scan_delimited</b>	function
<b>get_index</b>	function	<b>scan_dimen</b>	function
<b>get_instance</b>	function	<b>scan_dimen_argument</b>	function
<b>get_integer</b>	function	<b>scan_float</b>	function
<b>get_macro</b>	function	<b>scan_glue</b>	function
<b>get_meaning</b>	function	<b>scan_integer</b>	function
<b>get_noaligned</b>	function	<b>scan_integer_argument</b>	function
<b>get_parameters</b>	function	<b>scan_key</b>	function
<b>get_permanent</b>	function	<b>scan_keyword</b>	function
<b>get_primitive</b>	function	<b>scan_keyword_cs</b>	function
<b>get_protected</b>	function	<b>scan_letters</b>	function
<b>get_range</b>	function	<b>scan_luacardinal</b>	function

<b>scan_luainteger</b>	function	<b>scan_value</b>	function
<b>scan_luanumber</b>	function	<b>scan_word</b>	function
<b>scan_next</b>	function	<b>serialize</b>	function
<b>scan_next_char</b>	function	<b>set_char</b>	function
<b>scan_next_expanded</b>	function	<b>set_dimension</b>	function
<b>scan_real</b>	function	<b>set_integer</b>	function
<b>scan_skip</b>	function	<b>set_lua</b>	function
<b>scan_string</b>	function	<b>set_macro</b>	function
<b>scan_token</b>	function	<b>skip_next</b>	function
<b>scan_token_code</b>	function	<b>skip_next_expanded</b>	function
<b>scan_tokenlist</b>	function	<b>type</b>	function
<b>scan_toks</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 endoffline  
N escape  
N ignore  
N invalid  
N letter  
N mathshift  
N open  
N other  
N parameter  
N space  
N subscript  
N superscript  
N whitespace

**cache** table

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

U resetctxscanner  
U rlap  
U 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

<b>new</b>	function	F integerargument
<b>pickup</b>	function	F ischar
<b>popmacro</b>	function	F key
<b>presets</b>	table	F keyword
	T 1 argument	F keywordcs
	T 1 string	F letters
	T 2 arguments	F list
	T 2 strings	F luacardinal
	T 3 arguments	F luainteger
	T 3 strings	F luanumber
	T 4 arguments	F lxmlid
	T 4 strings	F next
	T 5 strings	F nextexpanded
	T 6 strings	F number
	T 7 strings	F optional
	T 8 strings	F peek
<b>pushmacro</b>	function	F peekchar
<b>scanners</b>	table	F peekexpanded
	F argument	F real
	F argumentasis	F scanclose
	F array	F scanopen
	F boolean	F skip
	F box	F skipexpanded
	F bracketed	F string
	F bracketedasis	F table
	F cardinal	F token
	F char	F tokencode
	F cmdchr	F tokenlist
	F cmdchrexplained	F tokens
	F code	F toks
	F conditional	F value
	F count	F vbox
	F csname	F verbatim
	F delimited	F vtop
	F dimen	F whd
	F dimenargument	F word
	F dimension	<b>setinteger</b> function
	F float	<b>setters</b> table
	F glue	F box
	F gluespec	F char
	F gluevalues	F count
	F hash	F dimen
	F hbox	F glue
	F integer	F lua

F macro	F scanglue
F skip	F scangluespec
<b>shortcuts</b> table	F scangluevalues
T bits	F scanhash
N active	F scanhbox
N alignment	F scaninteger
N begingroup	F scanintegerargument
N character	F scankeyword
N close	F scankeywordcs
N comment	F scanletters
N endgroup	F scanlist
N endofline	T scanners
N escape	F argument
N ignore	F argumentasis
N invalid	F array
N letter	F boolean
N mathshift	F box
N open	F bracketed
N other	F bracketedasis
N parameter	F cardinal
N space	F char
N subscript	F cmdchr
N superscript	F cmdchrexpanded
N whitespace	F code
N close	F conditional
F inspect	F count
N open	F csname
F report	F delimited
F scanargument	F dimen
F scanargumentasis	F dimenargument
F scanarray	F dimension
F scanboolean	F float
F scanbox	F glue
F scanbracketed	F gluespec
F scanbracketedasis	F gluevalues
F scancardinal	F hash
F scanclose	F hbox
F scancode	F integer
F scanconditional	F integerargument
F scancsname	F ischar
F scandelimited	F key
F scandimen	F keyword
F scandimenargument	F keywordcs
F scandimension	F letters

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

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



## tracers (context)

**printerror** function

**printwarning** function

**showlines** function

## trackers (context)

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

# typesetters (context)

## **alignments**      table

F handler  
F set

## **breakpoints**      table

F define  
F handler  
D mapping  
T methods  
T numbers  
F set  
F setreplacement

## **cases**      table

T actions  
F handler  
F register  
F set

## **characteralign** table

F handler  
F resetcharacteralign  
F setcharacteralign

## **characters**      table

F handler  
T methods  
F replacensp  
F replacenspaces

## **checkers**      table

F handler  
F reset  
F set

## **cleaners**      table

F handler  
F set

## **digits**      table

T actions  
F handler  
F set

## **directions**      table

F getfences  
F getglobal  
F getmethod  
F handler

T handlers  
F installhandler  
F processmath  
F set  
F setcolor  
F setmath  
F tomode

## **firstlines**      table

T actions  
F default  
F line  
F word  
F handler  
F set

## **fontkerns**      table

F handler

## **initials**      table

T actions  
F default  
F addanchortoline  
F addtoline  
F calculatedelta  
F checkline  
F handler  
F moveinline  
F normalize  
F set

## **injectors**      table

F check  
T list  
F mark  
F reset  
F set  
F show

## **italics**      table

F enablemath  
F enabletext  
F forcevariant  
F handler  
F reset  
F set

## **kerns**      table

D factors  
F handler  
F keepligature  
D mapping  
F set

## **manipulators**      table

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

## **margins**      table

F finalhandler  
F globalhandler  
F localhandler  
F save

## **marksuspects**      function

## **paragraphs**      table

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

## **periodkerns**      table

D factors  
F handler  
D mapping  
F set

## **processors**      table

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

## **rubies**      table

F attach  
F check

## **showsuspects**      function

## **spacings**      table

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

F reset

F set

F setup

## **wrappers**      table

F handler

## **xtables**      table

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

## updaters (context)

**apply**     function

**register** function

## url (context)

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

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

## utf8 (basic lua)

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

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

# utilities (context)

## debugger

table

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

## files

table

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

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

## formatters

table

- F formatcolumns
- F list
- F stripzeros

## garbagecollector

table

- F check
- N criterium
- B enabled

## ghostscript

table

- F convert
- F statistics

## graphicmagick

table

- F convert
- F statistics

## graphicsmagick

table

- F convert



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

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

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

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

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

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

B leftpage

B page

B paper

B rightpage

B text

F iterator

F keq\_to\_hash

F listitem

F make\_settings\_to\_hash\_pattern

F mergehashes

F options\_to\_array

F options\_to\_hash

T patterns

U settings\_to\_array

U settings\_to\_hash\_a

U settings\_to\_hash\_b

U settings\_to\_hash\_c

U settings\_to\_hash\_d

U unittotex

F process\_stripped\_settings

F rfc4180splitter

F runtime

F settings\_to\_array

F settings\_to\_array\_obey\_fences

F settings\_to\_array\_with\_repeat

F settings\_to\_hash

F settings\_to\_hash\_colon\_too

F settings\_to\_hash\_strict

F settings\_to\_hash\_tolerant

F settings\_to\_numbers

F settings\_to\_set

F simple\_hash\_to\_string

F splitmethod

F splitthousands

F stepper

F stripped\_settings\_to\_array

F totime

F unittotex

F unittoxml

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

F get

F getnumber

F getseed

F popseed

- F pushseed
- 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 getsize
- 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>registerescapepline</b>	function	<b>writespace</b>	function
<b>registerescapepattern</b>	function		

# xcomplex (extra lua)

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

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

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

## xdecimal (extra lua)

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

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



## xmath (extra lua)

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

# xml (context)

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

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

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

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

## xzip (extra lua)

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

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

## zip (extra lua)

**archives**

table

**closearchive**

function

**openarchive**

function

**registeredfiles**

table

## zlib (extra lua)

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

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