

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

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

# global (alias: \_G)

|                            |          |                     |            |
|----------------------------|----------|---------------------|------------|
| <b>CONTEXTLMTXMODE</b>     | number   | <b>directives</b>   | table      |
| <b>LUAFORMAT</b>           | number   | <b>document</b>     | table      |
| <b>LUAMAJORVERSION</b>     | number   | <b>documentdata</b> | table      |
| <b>LUAMINORVERSION</b>     | number   | <b>dofile</b>       | function   |
| <b>LUATEXENGINE</b>        | string   | <b>drivers</b>      | table      |
| <b>LUATEXFORMATID</b>      | number   | <b>effects</b>      | table      |
| <b>LUATEXFUNCTIONALITY</b> | number   | <b>environment</b>  | table      |
| <b>LUATEXVERBOSE</b>       | string   | <b>error</b>        | function   |
| <b>LUATEXVERSION</b>       | number   | <b>experiments</b>  | table      |
| <b>LUAVERSION</b>          | number   | <b>figures</b>      | table      |
| <b>MP</b>                  | function | <b>file</b>         | table      |
| <b>SAVEDREQUIRE</b>        | function | <b>fio</b>          | table      |
| <b>aes</b>                 | table    | <b>floats</b>       | table      |
| <b>arg</b>                 | table    | <b>font</b>         | table      |
| <b>assert</b>              | function | <b>fonts</b>        | table      |
| <b>attributes</b>          | table    | <b>functions</b>    | table      |
| <b>backends</b>            | table    | <b>getmetatable</b> | function   |
| <b>basexx</b>              | table    | <b>graphics</b>     | table      |
| <b>bibtex</b>              | table    | <b>gzip</b>         | table      |
| <b>bit32</b>               | table    | <b>helper</b>       | table      |
| <b>blobs</b>               | table    | <b>images</b>       | table      |
| <b>boolean</b>             | table    | <b>inspect</b>      | function   |
| <b>buffers</b>             | table    | <b>interactions</b> | table      |
| <b>builders</b>            | table    | <b>interfaces</b>   | table      |
| <b>bytemap</b>             | table    | <b>io</b>           | table      |
| <b>caches</b>              | table    | <b>ipairs</b>       | function   |
| <b>callback</b>            | table    | <b>job</b>          | table      |
| <b>callbacks</b>           | table    | <b>kpse</b>         | table      |
| <b>catcodes</b>            | table    | <b>language</b>     | table      |
| <b>characters</b>          | table    | <b>languages</b>    | table      |
| <b>chemistry</b>           | table    | <b>layouts</b>      | table      |
| <b>collectgarbage</b>      | function | <b>lfs</b>          | table      |
| <b>commands</b>            | table    | <b>libraries</b>    | table      |
| <b>containers</b>          | table    | <b>lmx</b>          | table      |
| <b>context</b>             | function | <b>load</b>         | function   |
| <b>converters</b>          | table    | <b>loaders</b>      | data table |
| <b>coroutine</b>           | table    | <b>loadfile</b>     | function   |
| <b>ctxrunner</b>           | table    | <b>loadstring</b>   | function   |
| <b>debug</b>               | table    | <b>logs</b>         | table      |
| <b>dimen</b>               | function | <b>lpdf</b>         | table      |
| <b>dir</b>                 | table    | <b>lpeg</b>         | table      |

|                 |          |                   |            |
|-----------------|----------|-------------------|------------|
| lua             | table    | resolvers         | table      |
| luac            | table    | sandbox           | table      |
| luatex          | table    | scripts           | table      |
| lxml            | table    | select            | function   |
| math            | table    | serial            | table      |
| mathematics     | table    | set               | table      |
| md5             | table    | setinspector      | function   |
| metapost        | table    | setmathparameters | function   |
| mime            | table    | setmetatable      | function   |
| moduledata      | table    | sha2              | table      |
| modules         | table    | sio               | table      |
| mp              | function | socket            | table      |
| mplib           | table    | sorters           | table      |
| nanopjpeg       | table    | sparse            | table      |
| next            | function | statistics        | table      |
| noads           | table    | status            | table      |
| node            | table    | storage           | table      |
| nodes           | table    | streams           | table      |
| number          | table    | string            | table      |
| objects         | table    | structures        | table      |
| optional        | table    | table             | table      |
| optionalrequire | function | tex               | table      |
| os              | table    | texconditionals   | data table |
| package         | table    | texconfig         | table      |
| pagebuilders    | table    | texconstants      | data table |
| pairs           | function | texifs            | data table |
| parametersets   | table    | texio             | table      |
| pcall           | function | texisdefined      | data table |
| pdf             | table    | texmodes          | data table |
| pdfdecode       | table    | texsystemmodes    | data table |
| pdfe            | table    | thirddata         | table      |
| physics         | table    | toboolean         | function   |
| pngdecode       | table    | todecimal         | function   |
| posit           | table    | token             | table      |
| potrace         | table    | tokens            | table      |
| print           | function | tonumber          | function   |
| publications    | table    | tostring          | function   |
| qrcodegen       | table    | tracers           | table      |
| rawequal        | function | trackers          | table      |
| rawget          | function | type              | function   |
| rawlen          | function | typesetters       | table      |
| rawset          | function | unpack            | function   |
| regimes         | table    | updaters          | table      |
| require         | function | url               | table      |

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

## aes (extra lua)

**decode** function  
**encode** function

**random** function

# attributes (context)

## **alternates** table

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

## **applyoverloads** function

## **checkvalues** 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 formatluminance  
F formatluminanceratio  
F getpagecolormodel  
F gray  
F graytohsb  
F handler  
T helpers  
F complement  
F inbetween  
F justone  
F hsvtorgay  
F hsvtorgb  
F hwbtorgb  
F iccprofile  
F isblack  
F labtolch  
F labtorgb  
F labtoxyz  
F lchtolab  
F lchtorgb  
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 rgbbytes  
F rgbtocmyk  
F rgbtorgay  
F rgbtohsb

|                          |            |                       |            |
|--------------------------|------------|-----------------------|------------|
| F rgbtoxyz               |            | F register            |            |
| N selector               |            | D registered          |            |
| F setlist                |            | F set                 |            |
| F setmodel               |            | <b>numbers</b>        | data table |
| F setpagecolormodel      |            | <b>ofnode</b>         | function   |
| D sets                   |            | <b>private</b>        | function   |
| F spec                   |            | <b>public</b>         | function   |
| F spot                   |            | <b>registervalue</b>  | function   |
| F spotcolorname          |            | <b>restore</b>        | function   |
| F spotcolorparent        |            | <b>save</b>           | function   |
| F spotcolorvalue         |            | <b>setcleaner</b>     | function   |
| B supported              |            | <b>showcurrent</b>    | function   |
| F toattributes           |            | <b>states</b>         | table      |
| F transparencycomponents |            | F disabletriggering   |            |
| B triggering             |            | F enabletriggering    |            |
| F usecolors              |            | F finalize            |            |
| D valid                  |            | F initialize          |            |
| F value                  |            | F process             |            |
| D values                 |            | F selective           |            |
| B weightgray             |            | F simple              |            |
| F xyztolab               |            | F stacked             |            |
| F xyztorgb               |            | F stacker             |            |
| <b>counts</b>            | data table | <b>system</b>         | function   |
| <b>define</b>            | function   | <b>tooverloads</b>    | function   |
| <b>effects</b>           | table      | <b>transparencies</b> | table      |
| N attribute              |            | N attribute           |            |
| D data                   |            | D data                |            |
| F enable                 |            | F enable              |            |
| F handler                |            | F forcesupport        |            |
| F register               |            | F handler             |            |
| D registered             |            | T names               |            |
| D values                 |            | N color               |            |
| <b>getvalue</b>          | function   | N colorburn           |            |
| <b>getvalues</b>         | function   | N colordodge          |            |
| <b>handlers</b>          | table      | N darken              |            |
| <b>hasvalues</b>         | function   | N difference          |            |
| <b>list</b>              | data table | N exclusion           |            |
| <b>markasoverload</b>    | function   | N hardlight           |            |
| <b>names</b>             | data table | N hue                 |            |
| <b>negatives</b>         | table      | N lighten             |            |
| N attribute              |            | N luminosity          |            |
| D data                   |            | N multiply            |            |
| F enable                 |            | N none                |            |
| F handler                |            | N normal              |            |

|                     |            |                          |
|---------------------|------------|--------------------------|
| N overlay           |            | F definedlayoutcomponent |
| N saturation        |            | F enable                 |
| N screen            |            | F forcesupport           |
| N softlight         |            | F handler                |
| N none              |            | B hasorder               |
| F register          |            | D listwise               |
| D registered        |            | F register               |
| B supported         |            | D registered             |
| F toattribute       |            | F resolve_begin          |
| B triggering        |            | F resolve_end            |
| F value             |            | F resolve_reset          |
| D values            |            | F resolve_step           |
| <b>unsetvalue</b>   | number     | D scopes                 |
| <b>values</b>       | data table | F setfeatures            |
| <b>viewerlayers</b> | table      | F setup                  |
| N attribute         |            | F start                  |
| F cleanup           |            | F stop                   |
| D data              |            | B supported              |
| F define            |            | D values                 |



# backends (context)

**closeout** function

**codeinjections** table

F registerboxresource

F registerfont

F restoreboxresource

**current** string

**defaults** table

T codeinjections

F prerollreference

F setautoprefix

F vfstartcolor

F vfstopcolor

T nodeinjections

F cmykcolor

F destination

F graycolor

F injectknockout

F injectoverprint

F reference

F rgbcolor

F spotcolor

F transparency

T registrations

F transparency

D tables

**getcallbackstate** function

**included** table

B context

B date

B id

B metadata

B pdf

**initialize** function

**latelua** function

**nodeinjections** table

**nothing** function

**openout** function

**registered** table

T pdf

T codeinjections

F addbookmarks

F analyzenormalsymbol

F analyzesymbol

F attachmentid

F bitmap

F clonefield

F copyimage

F defaultprofile

F definefield

F definefieldset

F defineviewerlayer

F discardpages

F embedfile

F embedimage

F enabletags

F exportformdata

F fieldsurrounding

F flushmergelayer

F getbookmarks

F getboxresourcebox

F getdefaultfieldvalue

F getfieldcategory

F getfieldset

F getformatoption

F getinfo

F getlinkstructureparent

F getreferencestructureobject

F getrefobj

F insertrenderingwindow

F jp2

F jpg

F maptag

F mergebookmarks

F mergecomments

F mergefields

F mergereferences

F mergerenditions

F mergeviewerlayers

F newimage

F png

F prerollreference

F presetsymbol

F presetsymbollist  
F processrendering  
F registerdocumentcloseaction  
F registerdocumentopenaction  
F registeredsymbol  
F registerfiguremask  
F registerfigurerange  
F registerpagecloseaction  
F registerpageopenaction  
F registerpattern  
F registersymbol  
F ruleactionbox  
F ruleactiondraw  
F ruleactionfill  
F ruleactionmp  
F ruleactionstroke  
F saveboxresource  
F scanimage  
F setattachmentsupport  
F setautoprefix  
F setencryption  
F setfieldcalculationset  
F setfigurecolorspace  
F setfiguremask  
F setformat  
F setformsmethod  
F setjobcomment  
F setpagetransition  
F settaggingsupport  
F setupviewerlayer  
F setuserdata  
F setxmpfile  
F startactualtext  
F startalternativetext  
F startlayer  
F startunicodetoactualtext  
F startunicodetoactualtextdirect  
F stopactualtext  
F stopalternativetext  
F stoplayer  
F stopunicodetoactualtext  
F stopunicodetoactualtextdirect  
F supportedformats  
F uncodetoactualtext

F useviewerlayer  
F validcompactor  
F validfield  
F validfieldcategory  
F validfieldset  
F vfstartcolor  
F vfstopcolor  
F wrapimage  
S name  
T nodeinjections  
F addtags  
F annotation  
F attachfile  
F changestackedlayer  
F cmykcolor  
F comment  
F destination  
F effect  
F getboxresourcedimensions  
F graycolor  
F injectbitmap  
F insertu3d  
F knockout  
F negative  
F overprint  
F positive  
F reference  
F rgbcolor  
F spotcolor  
F startalternate  
F startlayer  
F startstackedlayer  
F stopalternate  
F stoplayer  
F stopstackedlayer  
F transparency  
F typesetfield  
F useboxresource  
T registrations  
F cmykindexcolor  
F cmykspotcolor  
F getspotcolorreference  
F grayindexcolor  
F grayspotcolor

F `rgbindexcolor`  
F `rgbspotcolor`  
F `spotcolorname`  
F `transparency`  
T `tables`

|                      |          |
|----------------------|----------|
| <b>registrations</b> | table    |
| <b>setencryption</b> | function |
| <b>tables</b>        | table    |
| <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 (context)

**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>empty</b>          | function |
| <b>erase</b>          | function |
| <b>exists</b>         | function |
| <b>get</b>            | function |
| <b>getcontent</b>     | function |
| <b>getctxlua</b>      | function |
| <b>getlines</b>       | function |
| <b>getmkvi</b>        | function |
| <b>gettex</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>splitsamplefile</b> | function |
| <b>undent</b>          | function |



# builders (context)

|                        |          |   |                                   |
|------------------------|----------|---|-----------------------------------|
| <b>checkparcontext</b> | function | F start                                 |                                   |
| <b>checksidefloat</b>  | function | F stop                                  |                                   |
| <b>hpack</b>           | table    | F tag                                   |                                   |
| F qualityactions       |          |   | <b>parpassidentifier</b> function |
| F report               |          |   | <b>passnames</b> data table       |
| F show                 |          |   | <b>profiling</b> table            |
| <b>kernel</b>          | table    | F add                                   |                                   |
| F collapsing           |          | F adddrivers                            |                                   |
| F hyphenating          |          | F boxlinehandler                        |                                   |
| F kerning              |          | F distance                              |                                   |
| F ligaturing           |          | F fixedprofile                          |                                   |
| F mlisttohlist         |          | F get                                   |                                   |
| <b>paragraphs</b>      | table    | F getrivers                             |                                   |
| T constructors         |          | F list                                  |                                   |
| N attribute            |          | F pagehandler                           |                                   |
| F define               |          | F pagelinehandler                       |                                   |
| F disable              |          | F profilebox                            |                                   |
| F enable               |          | F profilelines                          |                                   |
| F handler              |          | F set                                   |                                   |
| T methods              |          | F setlines                              |                                   |
| F basic                |          | <b>registerpaspasscallback</b> function |                                   |
| F default              |          | <b>vpack</b> table                      |                                   |
| F hpack                |          | F qualityactions                        |                                   |
| F oneline              |          | F report                                |                                   |
| D names                |          | <b>vspacing</b> table                   |                                   |
| D numbers              |          | D categories                            |                                   |
| F set                  |          | F checkstrutdepth                       |                                   |
| F start                |          | F collapsevbox                          |                                   |
| F stop                 |          | T data                                  |                                   |
| T expansion            |          | D map                                   |                                   |
| F trace                |          | D skip                                  |                                   |
| F kepttogether         |          | D snapmethods                           |                                   |
| F registertogether     |          | F definesnapmethod                      |                                   |
| T solutions            |          | B fixed                                 |                                   |
| T splitters            |          | F flushcontributions                    |                                   |
| F define               |          | F forcepageflush                        |                                   |
| F optimize             |          | F forcestrutdepth                       |                                   |
| T registered           |          | F getnofpreviouslines                   |                                   |
| F reset                |          | F inject                                |                                   |
| F set                  |          | F injectdisable                         |                                   |
| F split                |          | F injectnowhite                         |                                   |

F injectpenalty

F injectskip

F interceptsamepagecontent

F pagehandler

F pageoverflow

F popatsame

F pushatsame

F setmap

F setskip

F snapbox

F synchronizepage

F tocategories

F tocategory

F vboxhandler

## bytemap (context)

|                     |          |
|---------------------|----------|
| <b>bounds</b>       | function |
| <b>clip</b>         | function |
| <b>copy</b>         | function |
| <b>dimensions</b>   | function |
| <b>domain</b>       | function |
| <b>downgrade</b>    | function |
| <b>downsample</b>   | function |
| <b>getbyte</b>      | function |
| <b>getbytes</b>     | function |
| <b>getvalue</b>     | function |
| <b>hasbytegray</b>  | function |
| <b>hasbyterange</b> | function |
| <b>hasbytergb</b>   | function |

|                   |          |
|-------------------|----------|
| <b>new</b>        | function |
| <b>newdomain</b>  | function |
| <b>process</b>    | function |
| <b>reduce</b>     | function |
| <b>reset</b>      | function |
| <b>setgray</b>    | function |
| <b>setgrayadd</b> | function |
| <b>setgraymin</b> | function |
| <b>setrgb</b>     | function |
| <b>slicegray</b>  | function |
| <b>slicerange</b> | function |
| <b>slicergb</b>   | function |

## 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)

|                        |          |                   |                     |
|------------------------|----------|-------------------|---------------------|
| <b>find</b>            | function | <b>list</b>       | function            |
| <b>getindex</b>        | function | <b>names</b>      | function            |
| <b>getoptions</b>      | function | <b>register</b>   | overloaded function |
| <b>getoptionvalues</b> | function | <b>setoptions</b> | function            |
| <b>getstate</b>        | function | <b>setstate</b>   | function            |
| <b>getstatevalues</b>  | function | <b>testonly</b>   | function            |
| <b>known</b>           | function | <b>usage</b>      | function            |

# callbacks (context)

|                       |          |                           |
|-----------------------|----------|---------------------------|
| <b>freeze</b>         | function | N local_box               |
| <b>functions</b>      | table    | N make_extensible         |
| F start_page_number   |          | N math_rule               |
| F stop_page_number    |          | N missing_character       |
| <b>getcomment</b>     | function | N mlist_to_hlist          |
| <b>getstates</b>      | function | N open_data_file          |
| <b>known</b>          | function | N packed_vbox             |
| <b>list</b>           | table    | N paragraph_context       |
| N alignment           |          | N paragraph_pass          |
| N append_adjust       |          | N post_linebreak          |
| N append_line         |          | N pre_dump                |
| N append_migrate      |          | N pre_linebreak           |
| N append_to_vlist     |          | N pre_output              |
| N balance_boundary    |          | N process_character       |
| N balance_check       |          | N process_jobname         |
| N balance_insert      |          | N quality_font            |
| N begin_paragraph     |          | N register_extensible     |
| N buildpage           |          | N show_build              |
| N define_font         |          | N show_error_message      |
| N find_format_file    |          | N show_loners             |
| N find_log_file       |          | N show_lua_call           |
| N get_attribute       |          | N show_vsplitt            |
| N get_math_dictionary |          | N show_warning_message    |
| N get_noad_class      |          | N show_whatsit            |
| N glyph_run           |          | N start_file              |
| N handle_overload     |          | N start_run               |
| N handle_uinsert      |          | N stop_file               |
| N handle_uleader      |          | N stop_run                |
| N hpack               |          | N tail_append             |
| N hpack_quality       |          | N test_only               |
| N hyphenate           |          | N trace_memory            |
| N insert_distance     |          | N vpack                   |
| N insert_par          |          | N vpack_quality           |
| N intercept_lua_error |          | N wrapup_run              |
| N intercept_tex_error |          |                           |
| N italic_correction   |          | <b>names</b> table        |
| N kerning             |          | <b>optimizer</b> function |
| N ligaturing          |          | <b>optionbits</b> table   |
| N linebreak           |          | <b>optioncodes</b> table  |
| N linebreak_check     |          | N direct                  |
| N linebreak_quality   |          | N trace                   |
|                       |          | <b>pop</b> function       |

|                   |          |               |
|-------------------|----------|---------------|
| <b>push</b>       | function | N fundamental |
| <b>register</b>   | function | N private     |
| <b>report</b>     | function | N selective   |
| <b>statebits</b>  | table    | N set         |
| <b>statecodes</b> | table    | N touched     |
| N disabled        |          | N tracing     |
| N frozen          |          |               |

## catcodes (context)

**names** data table

**numbers** data table

**register** function



# characters (context)

|                          |            |                         |            |
|--------------------------|------------|-------------------------|------------|
| <b>addcharacternames</b> | function   | T after_postscript      |            |
| <b>adobename</b>         | function   | T after_subscript       |            |
| <b>bidirectional</b>     | data table | T anudatta              |            |
| <b>blockrange</b>        | function   | T before_half           |            |
| <b>blocks</b>            | data table | T before_main           |            |
| <b>can_have_space</b>    | data table | T before_postscript     |            |
| <b>casemap</b>           | table      | T before_subscript      |            |
| <b>categories</b>        | data table | T below_mark            |            |
| <b>category</b>          | function   | T consonant             |            |
| <b>categorytags</b>      | data table | T dependent_vowel       |            |
| <b>classifiers</b>       | table      | T halant                |            |
| <b>collapsed</b>         | data table | T independent_vowel     |            |
| <b>combined</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>detailtags</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_hyphenator</b>    | data table |
| F known                  |            | <b>is_letter</b>        | data table |
| F resolve                |            | <b>is_mark</b>          | data table |
| <b>emojized</b>          | function   | <b>is_nothing</b>       | data table |
| <b>encodes</b>           | data table | <b>is_punctuation</b>   | data table |
| <b>entities</b>          | data table | <b>is_spacing</b>       | data table |
| <b>fallbacks</b>         | data table | <b>is_symbol</b>        | data table |
| <b>filters</b>           | data table | <b>lcchars</b>          | data table |
| <b>fractions</b>         | table      | <b>lccode</b>           | function   |
| <b>fromnumber</b>        | function   | <b>lccodes</b>          | data table |
| <b>fschars</b>           | data table | <b>lettered</b>         | function   |
| <b>fscodes</b>           | data table | <b>lhash</b>            | data table |
| <b>getrange</b>          | function   | <b>linebreaks</b>       | data table |
| <b>graphemes</b>         | data table | <b>lower</b>            | function   |
| <b>hangul</b>            | data table | <b>mathlists</b>        | data table |
| <b>indicgroups</b>       | table      | <b>mirrors</b>          | table      |
| T above_mark             |            | <b>otfscripts</b>       | data table |
| T after_half             |            | <b>ranges</b>           | data table |
| T after_main             |            | <b>registerentities</b> | function   |

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

# chemistry (context)

|                       |            |            |
|-----------------------|------------|------------|
| <b>component</b>      | function   | S line     |
| <b>define</b>         | function   | S lrn      |
| <b>definitions</b>    | data table | S lrt      |
| <b>format</b>         | string     | S mark     |
| <b>inlinechemical</b> | function   | S mir      |
| <b>instance</b>       | string     | S mov      |
| <b>method</b>         | string     | S move     |
| <b>molecule</b>       | function   | S number   |
| <b>moleculeparser</b> | userdata   | S oe       |
| <b>start</b>          | function   | S off      |
| <b>stop</b>           | function   | S r        |
| <b>syntax</b>         | table      | S rb       |
| T alkyl               |            | S rbd      |
| S category            |            | S rd       |
| T keys                |            | S rdb      |
| S ad                  |            | S rdd      |
| S adj                 |            | S rh       |
| S arrow               |            | S rm       |
| S au                  |            | S rn       |
| S b                   |            | S rot      |
| S bb                  |            | S rrn      |
| S bd                  |            | S rrt      |
| S bw                  |            | S rt       |
| S c                   |            | S rz       |
| S cc                  |            | S sb       |
| S ccd                 |            | S sd       |
| S cd                  |            | S sr       |
| S cz                  |            | S sub      |
| S dash                |            | S tb       |
| S db                  |            | S z        |
| S diff                |            | S zln      |
| S dir                 |            | S zlt      |
| S dr                  |            | S zn       |
| S ed                  |            | S zrn      |
| S ep                  |            | S zrt      |
| S es                  |            | S zt       |
| S et                  |            | S keyword  |
| S hb                  |            | N max      |
| S label               |            | T boat     |
| S ldb                 |            | S category |
| S ldd                 |            | T keys     |

|          |                |
|----------|----------------|
| S adj    | S rt           |
| S arrow  | S rz           |
| S b      | S sb           |
| S bb     | S sr           |
| S c      | S sub          |
| S cc     | S z            |
| S ccd    | S zln          |
| S cd     | S zlt          |
| S dash   | S zn           |
| S diff   | S zrn          |
| S eb     | S zrt          |
| S label  | S zt           |
| S line   | S keyword      |
| S lr     | N max          |
| S lrb    | T carbon       |
| S lrbd   | S category     |
| S lrd    | S keyword      |
| S lrh    | N max          |
| S lrn    | T chair        |
| S lrt    | S category     |
| S lrz    | S keyword      |
| S lsr    | N max          |
| S lsub   | T chem         |
| S mark   | N arguments    |
| S mov    | F direct       |
| S move   | T closecomplex |
| S number | S direct       |
| S off    | T eight        |
| S r      | S category     |
| S rb     | T keys         |
| S rbd    | S ad           |
| S rd     | S adj          |
| S rh     | S arrow        |
| S rn     | S au           |
| S rr     | S b            |
| S rrb    | S c            |
| S rrbd   | S cc           |
| S rrd    | S ccd          |
| S rrh    | S cd           |
| S rrn    | S crz          |
| S rrt    | S dash         |
| S rrz    | S db           |
| S rsr    | S diff         |
| S rsub   | S dr           |

|          |                  |
|----------|------------------|
| S eb     | S rz             |
| S ed     | S s              |
| S er     | S sb             |
| S hb     | S sr             |
| S label  | S ss             |
| S line   | S sub            |
| S lr     | S z              |
| S lrb    | S zln            |
| S lrbd   | S zlt            |
| S lrd    | S zn             |
| S lrh    | S zrn            |
| S lrn    | S zrt            |
| S lrt    | S zt             |
| S lrz    | S keyword        |
| S lsr    | N max            |
| S lsub   | T equals         |
| S mark   | S direct         |
| S mid    | T equilibrium    |
| S mids   | N arguments      |
| S midz   | F direct         |
| S mir    | T five           |
| S mov    | S category       |
| S move   | S keyword        |
| S number | N max            |
| S off    | T fivefront      |
| S r      | S category       |
| S rb     | S keyword        |
| S rbd    | N max            |
| S rd     | T four           |
| S rh     | S category       |
| S rm     | S keyword        |
| S rn     | N max            |
| S rot    | T gives          |
| S rr     | N arguments      |
| S rrb    | F direct         |
| S rrbd   | T mesomeric      |
| S rrd    | N arguments      |
| S rrh    | F direct         |
| S rrn    | T minus          |
| S rrt    | S direct         |
| S rrz    | T mp             |
| S rsr    | N arguments      |
| S rsub   | F direct         |
| S rt     | T newmaneclipsed |

|                 |                 |          |
|-----------------|-----------------|----------|
| S category      | S direct        |          |
| S keyword       | T restore       |          |
| N max           | S direct        |          |
| T newmanstagger | T save          |          |
| S category      | S direct        |          |
| S keyword       | T seven         |          |
| N max           | S category      |          |
| T nine          | S keyword       |          |
| S category      | N max           |          |
| S keyword       | T six           |          |
| N max           | S category      |          |
| T one           | S keyword       |          |
| S category      | N max           |          |
| S keyword       | T sixfront      |          |
| N max           | S category      |          |
| T opencomplex   | S keyword       |          |
| S direct        | N max           |          |
| T pb            | T space         |          |
| S direct        | S direct        |          |
| T pe            | T three         |          |
| S direct        | S category      |          |
| T plus          | S keyword       |          |
| S direct        | N max           |          |
| T reset         | <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-a</b>                | function   |
| <b>A:es</b>                | function | <b>cn-c</b>                | function   |
| <b>A:ru</b>                | function | <b>cn-d</b>                | function   |
| <b>A:sl</b>                | function | <b>convert</b>             | function   |
| <b>AK</b>                  | function | <b>decimals</b>            | function   |
| <b>Alphabetic</b>          | function | <b>define</b>              | function   |
| <b>Alphabetic:es</b>       | function | <b>gregorian_to_hebrew</b> | function   |
| <b>Alphabetic:ru</b>       | function | <b>gregorian_to_jalali</b> | function   |
| <b>Alphabetic:sl</b>       | function | <b>hebrewnumerals</b>      | function   |
| <b>Character</b>           | function | <b>helpers</b>             | table      |
| <b>Characters</b>          | function | <b>hexstringtonumber</b>   | function   |
| <b>I</b>                   | function | <b>i</b>                   | function   |
| <b>KA</b>                  | function | <b>isleapyear</b>          | function   |
| <b>KR</b>                  | function | <b>jalali_to_gregorian</b> | function   |
| <b>R</b>                   | function | <b>lchexnumber</b>         | function   |
| <b>RK</b>                  | function | <b>lchexnumbers</b>        | function   |
| <b>Romannumerals</b>       | function | <b>leapyear</b>            | function   |
| <b>Russiannumerals</b>     | function | <b>lower</b>               | function   |
| <b>Sloveniannumerals</b>   | function | <b>max</b>                 | function   |
| <b>Spanishnumerals</b>     | function | <b>maxchrs</b>             | function   |
| <b>Word</b>                | function | <b>nicenumber</b>          | function   |
| <b>Words</b>               | function | <b>nofdays</b>             | function   |
| <b>a</b>                   | function | <b>number</b>              | function   |
| <b>a:es</b>                | function | <b>numbers</b>             | function   |
| <b>a:ru</b>                | function | <b>octnumber</b>           | function   |
| <b>a:sl</b>                | function | <b>octstringtonumber</b>   | function   |
| <b>abjadnodotnumerals</b>  | function | <b>ordinal</b>             | function   |
| <b>abjadnumerals</b>       | function | <b>r</b>                   | function   |
| <b>alphabetic</b>          | function | <b>romannumerals</b>       | function   |
| <b>alphabetic:es</b>       | function | <b>russiannumerals</b>     | function   |
| <b>alphabetic:ru</b>       | function | <b>sequences</b>           | data table |
| <b>alphabetic:sl</b>       | function | <b>settime</b>             | function   |
| <b>character</b>           | function | <b>sloveniannumerals</b>   | function   |
| <b>characters</b>          | function | <b>spaceddigits</b>        | function   |
| <b>chineseallnumerals</b>  | function | <b>spanishnumerals</b>     | function   |
| <b>chinesecapnumerals</b>  | function | <b>textime</b>             | function   |
| <b>chinesedatenumerals</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   |



**uchexnumber**  
**uchexnumbers**  
**upper**  
**verbose**

D data

function  
function  
function  
table

F translate

**weekday**  
**word**  
**words**

function  
function  
function

## coroutine (basic lua)

|                    |          |
|--------------------|----------|
| <b>close</b>       | function |
| <b>create</b>      | function |
| <b>isyieldable</b> | function |
| <b>resume</b>      | function |

|                |          |
|----------------|----------|
| <b>running</b> | function |
| <b>status</b>  | function |
| <b>wrap</b>    | function |
| <b>yield</b>   | function |

# ctxrunner (context)

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

## debug (basic lua)

**getinfo**    function

**sethook**    function

**traceback**   function

## dir (context)

|                       |          |
|-----------------------|----------|
| <b>collectpattern</b> | function |
| <b>current</b>        | function |
| <b>expandlink</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 |
| <b>values</b>   | function |

# document (context)

|                            |            |                              |            |
|----------------------------|------------|------------------------------|------------|
| <b>arguments</b>           | data table | <b>pdf_cleanup_procsets</b>  | function   |
| <b>files</b>               | table      | <b>pdf_identify_content</b>  | function   |
| <b>functions</b>           | table      | <b>pdf_serialize_content</b> | function   |
| <b>getargument</b>         | function   | <b>pdf_strip_content</b>     | function   |
| <b>getfilename</b>         | function   | <b>pdf_strip_page</b>        | function   |
| <b>options</b>             | table      | <b>setargument</b>           | function   |
| T cmdline                  |            | <b>setcommandline</b>        | function   |
| D environments             |            | <b>setdefaultargument</b>    | function   |
| D modes                    |            | <b>setenvironments</b>       | function   |
| D modules                  |            | <b>setfilename</b>           | function   |
| T ctxfile                  |            | <b>setfilenames</b>          | function   |
| D environments             |            | <b>setmodes</b>              | function   |
| D modes                    |            | <b>setmodules</b>            | function   |
| D modules                  |            | <b>variables</b>             | data table |
| <b>pdf_cleanup_cidsets</b> | function   |                              |            |

# documentdata (context)

**variable** function



# drivers (context)

|                         |          |                   |
|-------------------------|----------|-------------------|
| <b>applyanchor</b>      | function | F rule            |
| <b>applyorientation</b> | function | F simplerule      |
| <b>convert</b>          | function | F specialrule     |
| <b>converters</b>       | table    | F updatefontstate |
| F analyze               |          | T Whatsit         |
| F engine                |          | S name            |
| F lmtx                  |          | T js              |
| F resyncbox             |          | T actions         |
| <b>enable</b>           | function | F cleanup         |
| <b>finalize</b>         | function | F convert         |
| <b>gethpos</b>          | function | F finalize        |
| <b>gethvrpos</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        |
| <b>initialize</b>       | function | F character       |
| <b>install</b>          | function | F popleaderlevel  |
| <b>instances</b>        | table    | F pushleaderlevel |
| T empty                 |          | F rule            |
| T actions               |          | F setstate        |
| F convert               |          | F simplerule      |
| F prepare               |          | F specialrule     |
| T flushers              |          | F updatefontstate |
| F popleaderlevel        |          | T Whatsit         |
| F pushleaderlevel       |          | S name            |
| T Whatsit               |          | T lua             |
| S name                  |          | T actions         |
| T js                    |          | F cleanup         |
| T actions               |          | F convert         |
| F cleanup               |          | F finalize        |
| F convert               |          | F initialize      |
| F finalize              |          | F outputfilename  |
| F initialize            |          | F prepare         |
| F outputfilename        |          | F wrapup          |
| F prepare               |          | T flushers        |
| F wrapup                |          | F character       |
| T flushers              |          | F popleaderlevel  |
| F character             |          | F pushleaderlevel |
| F popleaderlevel        |          | F rule            |
| F pushleaderlevel       |          | F simplerule      |

|                   |                       |          |
|-------------------|-----------------------|----------|
| F specialrule     | T pdf                 |          |
| F updatefontstate | T actions             |          |
| T whatsit         | F cleanup             |          |
| S name            | F convert             |          |
| T mpo             | F finalize            |          |
| T actions         | F initialize          |          |
| F finalize        | F outputfilename      |          |
| F initialize      | F prepare             |          |
| T flushers        | F wrapup              |          |
| F character       | T flushers            |          |
| F popleaderlevel  | F character           |          |
| F pushleaderlevel | F flushimage          |          |
| F rule            | F fontchar            |          |
| F simplerule      | F group               |          |
| F specialrule     | F literal             |          |
| T whatsit         | F popleaderlevel      |          |
| S name            | F poporientation      |          |
| T mps             | F pushleaderlevel     |          |
| T actions         | F pushorientation     |          |
| F cleanup         | F restore             |          |
| F convert         | F rule                |          |
| F finalize        | F save                |          |
| F initialize      | F setmatrix           |          |
| F outputfilename  | F setstate            |          |
| F prepare         | F simplerule          |          |
| F wrapup          | F space               |          |
| T flushers        | F specialrule         |          |
| F character       | F startclipping       |          |
| F popleaderlevel  | F startmatrix         |          |
| F pushleaderlevel | F startmirroring      |          |
| F rule            | F startrotation       |          |
| F simplerule      | F startscaling        |          |
| F specialrule     | F stopclipping        |          |
| F updatefontstate | F stopmatrix          |          |
| T whatsit         | F stopmirroring       |          |
| S name            | F stoprotation        |          |
| T none            | F stopscaling         |          |
| T actions         | F updatefontstate     |          |
| T flushers        | T whatsit             |          |
| F popleaderlevel  | S name                |          |
| F pushleaderlevel | <b>lmtxversion</b>    | number   |
| T whatsit         | <b>outputfilename</b> | function |
| S name            | <b>report</b>         | function |

## effects (context)

|                          |          |
|--------------------------|----------|
| <b>getoctaveloops</b>    | function |
| <b>getoctavemethods</b>  | function |
| <b>getoctavestatus</b>   | function |
| <b>getoctavevariants</b> | function |
| <b>newoctave</b>         | function |
| <b>octave</b>            | function |

|                      |          |
|----------------------|----------|
| <b>octavebytemap</b> | function |
| <b>perlinnoise</b>   | function |
| <b>simplexangle</b>  | function |
| <b>simplexdetail</b> | function |
| <b>simplexnoise</b>  | function |
| <b>stepoctave</b>    | function |

## environment (context)

|                            |            |                               |            |
|----------------------------|------------|-------------------------------|------------|
| <b>argument</b>            | function   | <b>luafilechunk</b>           | function   |
| <b>arguments</b>           | data table | <b>luatexengine</b>           | string     |
| <b>basicengines</b>        | data table | <b>luatexfunctionality</b>    | number     |
| <b>currentrun</b>          | number     | <b>luatexverbose</b>          | string     |
| <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>globfiles</b>           | function   | <b>prerollrun</b>             | boolean    |
| <b>homedir</b>             | string     | <b>rawarguments</b>           | data table |
| <b>initex</b>              | boolean    | <b>reconstructcommandline</b> | function   |
| <b>initexmode</b>          | boolean    | <b>relativepath</b>           | function   |
| <b>initializearguments</b> | function   | <b>setargument</b>            | function   |
| <b>initializefilenames</b> | function   | <b>splitarguments</b>         | function   |
| <b>inputfilebarename</b>   | string     | <b>suffix</b>                 | string     |
| <b>inputfilename</b>       | string     | <b>texfile</b>                | function   |
| <b>inputfilesuffix</b>     | string     | <b>texmfos</b>                | string     |
| <b>jobfilefullname</b>     | string     | <b>texos</b>                  | string     |
| <b>jobfilename</b>         | string     | <b>texroot</b>                | string     |
| <b>jobfilesuffix</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     |
| <b>luafile</b>             | function   |                               |            |

# experiments (context)

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

# figures (context)

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

|                         |            |                      |            |
|-------------------------|------------|----------------------|------------|
| <b>registerresource</b> | function   | <b>setconversion</b> | function   |
| <b>registersuffix</b>   | function   | <b>setlookups</b>    | function   |
| <b>remappers</b>        | data table | <b>setorder</b>      | function   |
| <b>resources</b>        | data table | <b>setpaths</b>      | function   |
| <b>scale</b>            | function   | <b>suffixes</b>      | data table |
| <b>set</b>              | function   | <b>used</b>          | data table |

## file (basic lua)

|                          |          |
|--------------------------|----------|
| <b>addsuffix</b>         | function |
| <b>basename</b>          | function |
| <b>checksum</b>          | function |
| <b>collapsepath</b>      | function |
| <b>copy</b>              | function |
| <b>dirname</b>           | function |
| <b>expandname</b>        | function |
| <b>extname</b>           | function |
| <b>is_qualified_path</b> | function |
| <b>is_readable</b>       | function |
| <b>is_rootbased_path</b> | function |
| <b>is_writable</b>       | function |
| <b>isreadable</b>        | function |
| <b>iswritable</b>        | function |
| <b>join</b>              | function |
| <b>joinpath</b>          | function |
| <b>loadchecksum</b>      | function |
| <b>nameonly</b>          | function |
| <b>nametotable</b>       | function |
| <b>needs Updating</b>    | function |

|                      |          |
|----------------------|----------|
| <b>needsupdating</b> | function |
| <b>pathpart</b>      | function |
| <b>readdata</b>      | function |
| <b>removesuffix</b>  | function |
| <b>replacesuffix</b> | function |
| <b>reslash</b>       | function |
| <b>robustname</b>    | function |
| <b>savechecksum</b>  | function |
| <b>savedata</b>      | function |
| <b>size</b>          | function |
| <b>splitbase</b>     | function |
| <b>splitname</b>     | function |
| <b>splitpath</b>     | function |
| <b>strip</b>         | function |
| <b>suffix</b>        | function |
| <b>suffixes</b>      | function |
| <b>suffixesonly</b>  | function |
| <b>suffixonly</b>    | function |
| <b>syncmtimes</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>readcline</b>         | function |
| <b>readcstring</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>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>getmathspec</b>            | function |
| <b>addquality</b>             | function | <b>getparameterfields</b>     | function |
| <b>current</b>                | function | <b>gettextcharacterfields</b> | function |
| <b>define</b>                 | function | <b>id</b>                     | function |
| <b>getfont</b>                | function | <b>max</b>                    | function |
| <b>getfontdimen</b>           | function | <b>nextid</b>                 | function |
| <b>getfontfields</b>          | function | <b>setfont</b>                | function |
| <b>getfontspec</b>            | function | <b>setfontdimen</b>           | function |
| <b>getmathcharacterfields</b> | function | <b>xscaled</b>                | function |
| <b>getmathindex</b>           | function | <b>yscaled</b>                | function |

# fonts (context)

|                           |       |                          |
|---------------------------|-------|--------------------------|
| <b>analyzers</b>          | table | F beforepassingfonttotex |
| D features                |       | D cache                  |
| D initializers            |       | F calculatyscale         |
| D methods                 |       | F checkedfeatures        |
| F setstate                |       | F checkedfilename        |
| D states                  |       | F collectprocessors      |
| B useunicodemarks         |       | F currentfonthasfeature  |
| <b>callbacks</b>          | table | D designsizes            |
| F compile                 |       | F enhanceparameters      |
| F devirtualize            |       | T enhancers              |
| <b>checkers</b>           | table | T afm                    |
| F getmissing              |       | F apply                  |
| D mapping                 |       | F patch                  |
| F missing                 |       | T patches                |
| F placeholder             |       | F register               |
| <b>cid</b>                | table | F report                 |
| F getmap                  |       | F register               |
| F loadfile                |       | F report                 |
| <b>collections</b>        | table | T otf                    |
| F checkenabled            |       | F addfeature             |
| F clonevector             |       | F apply                  |
| F define                  |       | F enhance                |
| T definitions             |       | F patch                  |
| F direct                  |       | T patches                |
| F found                   |       | F register               |
| F prepare                 |       | F report                 |
| F process                 |       | F register               |
| F register                |       | F report                 |
| F registermain            |       | T tfm                    |
| F report                  |       | F apply                  |
| F reset                   |       | F patch                  |
| T rscales                 |       | T patches                |
| T vectors                 |       | F register               |
| <b>constructors</b>       | table | F report                 |
| F addcharacters           |       | F register               |
| F addcoreunicodes         |       | F report                 |
| F aftercopyingcharacters  |       | N factor                 |
| F applyfinalizers         |       | T features               |
| F applymanipulators       |       | D afm                    |
| F assignmathparameters    |       | D otf                    |
| F beforecopyingcharacters |       | D tfm                    |

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

|                     |                               |
|---------------------|-------------------------------|
| D pdfcache          | T gsubhandlers                |
| F plugininitializer | F alternate                   |
| F pluginprocessor   | F chainedcontext              |
| T plugins           | F context                     |
| T text              | F extension                   |
| D pngcache          | F ligature                    |
| B pngenabled        | F multiple                    |
| T readers           | F reversechainedcontextsingle |
| F addunicodetable   | F single                      |
| F avar              | F gvar                        |
| F cbdt              | F head                        |
| F cblc              | T helpers                     |
| F cff               | F axistofactors               |
| F cff2              | F cleanname                   |
| T cffencoder        | F getaxisscale                |
| F checkhash         | F getfactors                  |
| F cmap              | F getscales                   |
| F colr              | F gotodatatable               |
| F compact           | F normalizedaxis              |
| F condense          | T normalizedaxisishash        |
| F cpal              | F readvariationdata           |
| F dsig              | 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 potracetocff                |
| F marktoligature    | F registerextender            |
| F marktomark        | F rehash                      |
| F pair              | F sbix                        |
| F single            | F stat                        |
| F gsub              | T streamreader                |

|                     |                     |
|---------------------|---------------------|
| F close             | F writecardinal1    |
| F getposition       | F writecardinal1le  |
| F getsizes          | F writecardinal2    |
| F look              | F writecardinal2le  |
| F open              | F writecardinal3    |
| F read2dot14        | F writecardinal3le  |
| F readbyte          | F writecardinal4    |
| F readbytes         | F writecardinal4le  |
| F readbytetable     | F writeinteger1     |
| F readcardinal      | F writeinteger1le   |
| F readcardinal1     | F writeinteger2     |
| F readcardinal1le   | F writeinteger2le   |
| F readcardinal2     | F writeinteger3     |
| F readcardinal2le   | F writeinteger3le   |
| F readcardinal3     | F writeinteger4     |
| F readcardinal3le   | F writeinteger4le   |
| F readcardinal4     | F writestring       |
| F readcardinal4le   | F stripredundant    |
| F readcardinaltable | F svg               |
| F readchar          | N tableversion      |
| F readcline         | F unifymissing      |
| F readcstring       | 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         | F texthandler       |

|                   |                       |          |
|-------------------|-----------------------|----------|
| T vectors         | F combine             |          |
| T arab            | T combiner            |          |
| T gpos            | D commands            |          |
| N curs            | D helpers             |          |
| N kern            | D math                |          |
| N mark            | D predefined          |          |
| N mkmk            | N version             |          |
| T gsub            | D whatever            |          |
| N calt            | F hashfeatures        |          |
| N ccmp            | F hashinstance        |          |
| N cswh            | T hashmethods         |          |
| N dlig            | F normal              |          |
| N fina            | F virtual             |          |
| N init            | F initializefeatures  |          |
| N isol            | D loadedfonts         |          |
| N liga            | N noffontsloaded      |          |
| N medi            | N nofsharedfonts      |          |
| N mset            | N nofsharedhashes     |          |
| N rclt            | N nofsharedvectors    |          |
| N rlig            | N privateoffset       |          |
| N version         | D privateslots        |          |
| T pfb             | F readanddefine       |          |
| F filterencoding  | F registerfeature     |          |
| F filtermetadata  | F registerscriptset   |          |
| F loadvector      | F resetfeature        |          |
| N version         | B resolvevirtualtoo   |          |
| T tfm             | F scale               |          |
| D cache           | F scaled              |          |
| D features        | F setfactor           |          |
| N maxnestingdepth | F setfeature          |          |
| N maxnestingsize  | F setmathparameter    |          |
| T readers         | F setname             |          |
| F loadpk          | B sharefonts          |          |
| F loadtfm         | F trytosharefont      |          |
| F loadtfmvf       | N version             |          |
| F loadvf          | <b>current</b>        | function |
| F pktopdf         | <b>currentid</b>      | function |
| F potracetopdf    | <b>definers</b>       | table    |
| F showpk          | F addlookup           |          |
| F reencode        | F analyze             |          |
| F setfeatures     | F applypostprocessors |          |
| N version         | F checkedmode         |          |
| T vf              | F checkedscript       |          |
| T combinations    | 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 registerfallbackfont
- F registersplit
- F resetnullfont
- F resolve
- T resolvers
  - F file
  - F name
  - F spec

**definetypface**      function

**dropins**            table

- F clone
- F getshape
- F getshapes
- F nextid
- F provide
- F registerglyph
- F registerglyphs
- F swap
- F swapone

**effects**            table

**encodings**        table

- T agl
  - D ctxcodes
  - D extras
  - 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 common-math.lfg
    - S author
    - S comment
    - S copyright
  - B initialized
  - T mathematics
  - T tweaks
- T presets
  - F addmathkerns
  - F braille
  - F eulertocalligraphic
  - F fallbacks
  - F moderntocalligraphic
  - F moveintegrals
  - F moveitalics
  - F pagellaradical
  - F rsfstoscript
  - F rsfsuprighttoscript
  - F scripttocalligraphic
  - F smalldigits
  - F wipeanchors
  - F wipeitalics

- F xitsarabic
- S name
- S version
- T dejavu-math
  - S author
  - S comment
  - S copyright
  - B initialized
  - T mathematics
    - T alternates
      - T dotless
        - S comment
        - S feature
        - N value
    - T bigslots
    - T parameters
      - N AccentBaseDepth
      - N AccentTopShiftUp
      - N DelimiterDisplayPercent
      - N DelimiterDisplayShortfall
      - N DelimiterPercent
      - N DelimiterShortfall
      - N DisplayOperatorMinHeight
      - N FlattenedAccentTopShiftUp
      - N FractionRuleThickness
      - S PrimeBaselineDropMax
      - S PrimeShiftUp
      - S PrimeShiftUpCramped
      - N SubscriptShiftDown
      - S SubscriptShiftDownWithSuperscript
      - N SuperscriptShiftUp
    - T tweaks
      - T aftercopying
  - S name
  - S version
- T dejavu-text
  - S author
  - S comment
  - S copyright
  - T extensions
  - B initialized
    - 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

|                 |       |
|-----------------|-------|
| <b>handlers</b> | table |
| <b>hashes</b>   | table |

- D characters
- D classes
- D csnames
- D descriptions
- D dynamics
- D emwidths
- D exheights
- 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 unislots
- D variants
- D xheights

|                |       |
|----------------|-------|
| <b>helpers</b> | table |
|----------------|-------|

- F addextraprivate
- F addprivate
- F appendcommands

F appendcommandtable  
 F checkflags  
 F checkmerge  
 F checksteps  
 F collectanchors  
 F combineglyphs  
 D commands  
 F composecharacters  
 F descriptiontoslot  
 F dimenfactor  
 F expandglyph  
 D extraprivates  
 F fontpatternhassize  
 F getcoloredglyphs  
 F getdigitwidth  
 F getinstancespec  
 F getparameters  
 F getprivatecharornode  
 F getprivatenode  
 F getprivates  
 F getprivateslot  
 F glyphdimenfactor  
 F hasprivate  
 F indextoslot  
 F isprivate  
 F mathscriptslots  
 F name  
 F nametoslot  
 F newprivateslot  
 F prependcommands  
 F prependcommandtable  
 F privateslot  
 F registerglyphbox  
 F scalecommands  
 F setboxdirectly  
 F setboxglyph  
 F setboxglyphs  
 F setdigitwidth  
 F setmetaglyph  
 F setmetaglyphs  
 D sharedprivates  
 F splitfontpattern  
 F tochar  
 T vfinjectors

F startcolor  
 F stopcolor  
 T vfspecials  
 T backgrounds  
 T outlines

**infofont**                      function  
**iterators**                      table

F characters  
 F descriptions  
 F glyphs  
**loggers**                      table  
 F format  
 F onetimemessage  
 F register  
 F reportdefinedfonts  
 F reportusedfeatures

**mappings**                      table

F addtounicode  
 F fromunicode16  
 F getentry  
 F loadfile  
 F loadline  
 F makenameparser  
 D overloads  
 F reset  
 F tounicode  
 F tounicode16  
 F tounicode16sequence

**metapost**                      table

F baseline  
 F boundingbox  
 F boxtomp  
 F boxtompdimensions  
 F boxtompposition  
 F draw  
 F fill  
 F glyph  
 F maxbounds  
 F paths  
 F widthline  
 F zeroline

**mode**                              function  
**names**                              data table  
**nulldata**                          data table

|                          |            |                           |       |
|--------------------------|------------|---------------------------|-------|
| <b>privateoffsets</b>    | table      | F registerfallback        |       |
| B keepnames              |            | F registerfiles           |       |
| N mathbase               |            | F registerfontalternative |       |
| N mathextrabase          |            | F registerfontfamily      |       |
| N textbase               |            | F textfallback            |       |
| N textextrabase          |            | F typeface                |       |
| <b>protrusions</b>       | data table | F typescript              |       |
| <b>readers</b>           | table      | F userdata                |       |
| F afm                    |            | <b>specifiers</b>         | table |
| F check_lua              |            | D contextmerged           |       |
| F check_tfm              |            | F contextnumber           |       |
| F lua                    |            | D contextnumbers          |       |
| F ofm                    |            | D contextsetups           |       |
| F opentype               |            | F contexttostring         |       |
| F otf                    |            | F definecontext           |       |
| F pfb                    |            | F mergecontext            |       |
| D sequence               |            | F presetcontext           |       |
| F tfm                    |            | F registercontext         |       |
| F ttc                    |            | T scriptsets              |       |
| F ttf                    |            | T af                      |       |
| F woff                   |            | S language                |       |
| <b>registersanitizer</b> | function   | N number                  |       |
| <b>reserveid</b>         | function   | S script                  |       |
| <b>select</b>            | table      | T always                  |       |
| D alternatives           |            | S autolanguage            |       |
| F bodyfont               |            | S autoscript              |       |
| D data                   |            | B checkmissing            |       |
| F default                |            | B compoundhyphen          |       |
| D defaults               |            | B curs                    |       |
| F definefallbackfamily   |            | B kern                    |       |
| F definefontfamily       |            | B mark                    |       |
| F definefontfamilypreset |            | B mkmk                    |       |
| D extras                 |            | S mode                    |       |
| F fallback               |            | N number                  |       |
| D fallbacks              |            | S script                  |       |
| F features               |            | S textcontrol             |       |
| F filefallback           |            | B wipemath                |       |
| F fontdata               |            | T arabic                  |       |
| F fontfallback           |            | B analyze                 |       |
| F fontsynonym            |            | S autolanguage            |       |
| F goodies                |            | S autoscript              |       |
| F mathfallback           |            | B calt                    |       |
| D methods                |            | B ccmp                    |       |
| D presets                |            | B clig                    |       |

|                 |               |
|-----------------|---------------|
| B curs          | B pstf        |
| B dlig          | B psts        |
| B fina          | B rphf        |
| B init          | S script      |
| B isol          | B vatu        |
| B kern          | T bengali-two |
| S language      | B abvm        |
| B liga          | B abvs        |
| B mark          | B akhn        |
| B medi          | B blwf        |
| B mkmk          | B blwm        |
| S mode          | B blws        |
| N number        | B calt        |
| B rlig          | B cjct        |
| S script        | B dist        |
| T ba            | B half        |
| S language      | B haln        |
| N number        | S indic       |
| S script        | B init        |
| T bandw:overlay | B kern        |
| B ccmp          | S language    |
| B dist          | B locl        |
| N number        | S mode        |
| T bengali-one   | B nukt        |
| B abvm          | N number      |
| B abvs          | B pres        |
| B akhn          | B pstf        |
| B blwf          | B psts        |
| B blwm          | B rphf        |
| B blws          | S script      |
| B calt          | B vatu        |
| B cjct          | T boldened    |
| B dist          | S effect      |
| B half          | N number      |
| B haln          | T boldened-10 |
| S indic         | S effect      |
| B init          | N number      |
| B kern          | T boldened-15 |
| S language      | S effect      |
| B locl          | N number      |
| S mode          | T boldened-20 |
| B nukt          | S effect      |
| N number        | N number      |
| B pres          | T boldened-25 |

|                  |                  |
|------------------|------------------|
| S effect         | B liga           |
| N number         | B mark           |
| T boldened-30    | B mkmk           |
| S effect         | S mode           |
| N number         | N number         |
| T ca             | S script         |
| S language       | S textcontrol    |
| N number         | B wipemath       |
| S script         | T cy             |
| T camelcasing    | S language       |
| B camelcasing    | N number         |
| N number         | S script         |
| T cn             | T cz             |
| S language       | S language       |
| N number         | N number         |
| S script         | S script         |
| T color          | T de             |
| B ccmp           | S language       |
| S color          | N number         |
| B dist           | S script         |
| N number         | T default        |
| T color:bitmap   | S autolanguage   |
| B ccmp           | S autoscript     |
| B dist           | B checkmissing   |
| N number         | B compoundhyphen |
| B sbix           | B curs           |
| T color:overlay  | B itlc           |
| B ccmp           | B kern           |
| B colr           | B liga           |
| B dist           | B mark           |
| N number         | B mkmk           |
| T color:svg      | S mode           |
| B ccmp           | N number         |
| B dist           | S script         |
| N number         | S textcontrol    |
| B svg            | B wipemath       |
| T complete       | T deo            |
| S autolanguage   | S language       |
| S autoscript     | N number         |
| B checkmissing   | S script         |
| B compose        | T devanagari-one |
| B compoundhyphen | B abvm           |
| B curs           | B abvs           |
| B kern           | B akhn           |

|                  |               |
|------------------|---------------|
| B blwf           | S script      |
| B blwm           | B vatw        |
| B blws           | T dingbats    |
| B calt           | S goodies     |
| B cjct           | S mode        |
| B dist           | N number      |
| B half           | B unicoding   |
| B haln           | T es          |
| S indic          | S language    |
| B kern           | N number      |
| S language       | S script      |
| B locl           | T et          |
| S mode           | S language    |
| B nukt           | N number      |
| N number         | S script      |
| B pres           | T f:fractions |
| B psts           | B frac        |
| B rkrf           | N number      |
| B rphf           | T f:inferiors |
| S script         | N number      |
| B vatw           | B subs        |
| T devanagari-two | T f:kern      |
| B abvm           | B kern        |
| B abvs           | N number      |
| B akhn           | T f:kerns     |
| B blwf           | B kern        |
| B blwm           | N number      |
| B blws           | T f:oldstyle  |
| B calt           | N number      |
| B cjct           | B onum        |
| B dist           | T f:smallcaps |
| B half           | N number      |
| B haln           | B smcp        |
| S indic          | T f:superiors |
| B kern           | N number      |
| S language       | B sups        |
| B locl           | T f:tabular   |
| S mode           | N number      |
| B nukt           | B tnum        |
| N number         | T fi          |
| B pres           | S language    |
| B psts           | N number      |
| B rkrf           | S script      |
| B rphf           | T followtext  |

|                  |                |
|------------------|----------------|
| B liga           | B akhn         |
| N number         | B blwf         |
| T fr             | B blwm         |
| S language       | B blws         |
| N number         | B calt         |
| S script         | B cjct         |
| T fullprotrusion | B dist         |
| N number         | B half         |
| S protrusion     | B haln         |
| T gr             | S indic        |
| S language       | B kern         |
| N number         | S language     |
| S script         | B locl         |
| T grek           | S mode         |
| N number         | B nukt         |
| S script         | N number       |
| T gujarati-one   | B pres         |
| B abvm           | B psts         |
| B abvs           | B rkrf         |
| B akhn           | B rphf         |
| B blwf           | S script       |
| B blwm           | B vatu         |
| B blws           | T gurmukhi-one |
| B calt           | B abvm         |
| B cjct           | B abvs         |
| B dist           | B akhn         |
| B half           | B blwf         |
| B haln           | B blwm         |
| S indic          | B blws         |
| B kern           | B calt         |
| S language       | B cjct         |
| B locl           | B dist         |
| S mode           | B half         |
| B nukt           | B haln         |
| N number         | S indic        |
| B pres           | B kern         |
| B psts           | S language     |
| B rkrf           | B locl         |
| B rphf           | S mode         |
| S script         | B nukt         |
| B vatu           | N number       |
| T gujarati-two   | B pres         |
| B abvm           | B pstf         |
| B abvs           | B psts         |



|                |                    |
|----------------|--------------------|
| B rphf         | B medi             |
| S script       | B mkmk             |
| B vatu         | S mode             |
| T gurmukhi-two | N number           |
| B abvm         | B reordercombining |
| B abvs         | B rlig             |
| B akhn         | S script           |
| B blwf         | T hr               |
| B blwm         | S language         |
| B blws         | N number           |
| B calt         | S script           |
| B cjct         | T hu               |
| B dist         | S language         |
| B half         | N number           |
| B haln         | S script           |
| S indic        | T indic-common     |
| B kern         | B abvm             |
| S language     | B abvs             |
| B locl         | B akhn             |
| S mode         | B blwm             |
| B nuk          | B blws             |
| N number       | B calt             |
| B pres         | B dist             |
| B pstf         | B haln             |
| B psts         | S indic            |
| B rphf         | B kern             |
| S script       | S language         |
| B vatu         | B locl             |
| T hebrew       | S mode             |
| B analyze      | B nuk              |
| S autolanguage | N number           |
| S autoscript   | B pres             |
| B calt         | B psts             |
| B ccmp         | B rphf             |
| B clig         | T inlinenumbers    |
| B curs         | N number           |
| B dlig         | B pnum             |
| B fina         | B tnum             |
| B init         | T is               |
| B isol         | S language         |
| B kern         | N number           |
| S language     | S script           |
| B liga         | T it               |
| B mark         | S language         |

|               |                  |
|---------------|------------------|
| N number      | B blwf           |
| S script      | B blwm           |
| T ja          | B blws           |
| S language    | B calt           |
| N number      | B cjct           |
| S script      | B dist           |
| T jamoforms   | B half           |
| B ljmo        | B haln           |
| N number      | S indic          |
| B tjmo        | B kern           |
| B vjmo        | S language       |
| T just-os     | B locl           |
| S mode        | S mode           |
| N number      | B nukt           |
| B onum        | N number         |
| T kannada-one | B pref           |
| B abvm        | B pres           |
| B abvs        | B pstf           |
| B akhn        | B psts           |
| B blwf        | B rphf           |
| B blwm        | S script         |
| B blws        | T la             |
| B calt        | S language       |
| B cjct        | N number         |
| B dist        | S script         |
| B half        | T latn           |
| B haln        | N number         |
| S indic       | S script         |
| B kern        | T letterspacing  |
| S language    | B ccmp           |
| B locl        | B clig           |
| S mode        | B dlig           |
| B nukt        | S keepligatures  |
| N number      | B liga           |
| B pref        | N number         |
| B pres        | B rlig           |
| B pstf        | T ligatures      |
| B psts        | S autolanguage   |
| B rphf        | S autoscript     |
| S script      | B checkmissing   |
| T kannada-two | B compoundhyphen |
| B abvm        | B curs           |
| B abvs        | B kern           |
| B akhn        | B liga           |

B mark  
 B mkmk  
 S mode  
 N number  
 S script  
 S textcontrol  
 B wipemath  
 T lm-math-bold  
   S effect  
   N number  
 T lowercasing  
   B lowercasing  
   N number  
 T malayalam-one  
   B abvm  
   B abvs  
   B akhn  
   B blwf  
   B blwm  
   B blws  
   B calt  
   B cjct  
   B dist  
   B half  
   B haln  
   S indic  
   B kern  
   S language  
   B locl  
   S mode  
   B nukl  
   N number  
   B pref  
   B pres  
   B pstf  
   B psts  
   B rphf  
   S script  
 T malayalam-two  
   B abvm  
   B abvs  
   B akhn  
   B blwf  
   B blwm

B blws  
 B calt  
 B cjct  
 B dist  
 B half  
 B haln  
 S indic  
 B kern  
 S language  
 B locl  
 S mode  
 B nukl  
 N number  
 B pref  
 B pres  
 B pstf  
 B psts  
 B rphf  
 S script  
 T math  
   B compactmath  
   B flattenaccents  
   B kern  
   S language  
   B mathalternates  
   S mathexpansion  
   S mode  
   N number  
   S script  
   B ssty  
   B wipemath  
 T math-script  
   B compactmath  
   B flattenaccents  
   B kern  
   S language  
   B mathalternates  
   S mathexpansion  
   S mode  
   N number  
   S script  
   N ssty  
   B wipemath  
 T math-scriptscript

- B compactmath
- B flattenaccents
- B kern
- S language
- B mathalternates
- S mathexpansion
- S mode
- N number
- S script
- N ssty
- B wipemath
- T math-text
  - B compactmath
  - B flattenaccents
  - B kern
  - S language
  - B mathalternates
  - S mathexpansion
  - S mode
  - N number
  - S script
  - B ssty
  - B wipemath
- T mathematics
  - B compactmath
  - B flattenaccents
  - B kern
  - S language
  - B mathalternates
  - S mathexpansion
  - S mode
  - N number
  - S script
  - B wipemath
- T mixed
- T mongolian
  - S autolanguage
  - S autoscript
  - B calt
  - B checkmissing
  - B compoundhyphen
  - B curs
  - B fina
  - B init

- B isol
- B itlc
- B kern
- B liga
- B mark
- B medi
- B mkmk
- S mode
- S mset
- N number
- B rclt
- B rlig
- S script
- S textcontrol
- B wipemath
- T nl
  - S language
  - N number
  - S script
- T none
  - B features
  - S mode
  - N number
- T oldstyle
  - S autolanguage
  - S autoscript
  - B checkmissing
  - B compoundhyphen
  - B curs
  - B kern
  - B liga
  - B mark
  - B mkmk
  - S mode
  - N number
  - B onum
  - S script
  - S textcontrol
  - B wipemath
- T oldstylenumbers
  - N number
  - B onum
- T original
  - S autolanguage

S autscript  
 B checkmissing  
 B compoundhyphen  
 B curs  
 B itlc  
 B kern  
 B liga  
 B mark  
 B mkmk  
 S mode  
 N number  
 S script  
 S textcontrol  
 B wipemath  
 T oriya-one  
 B abvm  
 B abvs  
 B akhn  
 B blwf  
 B blwm  
 B blws  
 B calt  
 B cjct  
 B dist  
 B haln  
 S indic  
 B kern  
 S language  
 B locl  
 S mode  
 B nukt  
 N number  
 B pres  
 B pstf  
 B psts  
 B rphf  
 S script  
 T oriya-two  
 B abvm  
 B abvs  
 B akhn  
 B blwf  
 B blwm  
 B blws

B calt  
 B cjct  
 B dist  
 B haln  
 S indic  
 B kern  
 S language  
 B locl  
 S mode  
 B nukt  
 N number  
 B pres  
 B pstf  
 B psts  
 B rphf  
 S script  
 T pl  
 S language  
 N number  
 S script  
 T primes  
 N number  
 B primes  
 T pt  
 S language  
 N number  
 S script  
 T quality  
 S expansion  
 N number  
 S protrusion  
 T recommended  
 S autolanguage  
 S autscript  
 B calt  
 B checkmissing  
 B clig  
 B compoundhyphen  
 B curs  
 B itlc  
 B kern  
 B liga  
 B mark  
 B mkmk

|                    |                |
|--------------------|----------------|
| S mode             | B curs         |
| N number           | B fina         |
| B rlig             | B init         |
| S script           | B isol         |
| S textcontrol      | B kern         |
| B wipemath         | S language     |
| T reordercombining | B mark         |
| N number           | B medi         |
| B reordercombining | B mkmk         |
| T ro               | S mode         |
| S language         | N number       |
| N number           | B rlig         |
| S script           | T simplearabic |
| T ru               | B analyze      |
| S language         | S autolanguage |
| N number           | S autoscript   |
| S script           | B calt         |
| T semitic-complete | B ccmp         |
| B analyze          | B curs         |
| S autolanguage     | B fina         |
| S autoscript       | B init         |
| B calt             | B isol         |
| B ccmp             | B kern         |
| B clig             | S language     |
| B curs             | B mark         |
| B dlig             | B medi         |
| B fina             | B mkmk         |
| B init             | S mode         |
| B isol             | N number       |
| B kern             | B rlig         |
| S language         | S script       |
| B liga             | T simplehebrew |
| B mark             | B analyze      |
| B medi             | S autolanguage |
| B mkmk             | S autoscript   |
| S mode             | B calt         |
| N number           | B ccmp         |
| B rlig             | B curs         |
| T semitic-simple   | B fina         |
| B analyze          | B init         |
| S autolanguage     | B isol         |
| S autoscript       | B kern         |
| B calt             | S language     |
| B ccmp             | B mark         |

|                  |                 |
|------------------|-----------------|
| B medi           | B dlig          |
| B mkmk           | B fin2          |
| S mode           | B fin3          |
| N number         | B fina          |
| B rlig           | B init          |
| S script         | B isol          |
| T sk             | B kern          |
| S language       | S language      |
| N number         | B liga          |
| S script         | B mark          |
| T sl             | B med2          |
| S language       | B medi          |
| N number         | B mkmk          |
| S script         | S mode          |
| T slanted        | N number        |
| N number         | B rlig          |
| N slant          | S script        |
| T smallcaps      | T system:tabnum |
| S autolanguage   | B lnum          |
| S autoscript     | N number        |
| B checkmissing   | B tnum          |
| B compoundhyphen | T tableddigits  |
| B curs           | N number        |
| B kern           | B tableddigits  |
| B mark           | B tnum          |
| B mkmk           | T tabulardigits |
| S mode           | N number        |
| N number         | B pnum          |
| S script         | B tnum          |
| B smcp           | T tamil-one     |
| S textcontrol    | B abvm          |
| B wipemath       | B abvs          |
| T sv             | B akhn          |
| S language       | B blwm          |
| N number         | B blws          |
| S script         | B calt          |
| T syriac         | B dist          |
| B analyze        | B half          |
| S autolanguage   | B haln          |
| S autoscript     | S indic         |
| B calt           | B kern          |
| B ccmp           | S language      |
| B clig           | B locl          |
| B curs           | S mode          |

B nukt  
 N number  
 B pref  
 B pres  
 B psts  
 B rphf  
 S script  
 T tamil-two  
 B abvm  
 B abvs  
 B akhn  
 B blwm  
 B blws  
 B calt  
 B dist  
 B half  
 B haln  
 S indic  
 B kern  
 S language  
 B locl  
 S mode  
 B nukt  
 N number  
 B pref  
 B pres  
 B psts  
 B rphf  
 S script  
 T telugu-one  
 B abvm  
 B abvs  
 B akhn  
 B blwf  
 B blwm  
 B blws  
 B calt  
 B cjct  
 B dist  
 B half  
 B haln  
 S indic  
 B kern  
 S language

B locl  
 S mode  
 B nukt  
 N number  
 B pref  
 B pres  
 B pstf  
 B psts  
 B rphf  
 S script  
 T telugu-two  
 B abvm  
 B abvs  
 B akhn  
 B blwf  
 B blwm  
 B blws  
 B calt  
 B cjct  
 B dist  
 B half  
 B haln  
 S indic  
 B kern  
 S language  
 B locl  
 S mode  
 B nukt  
 N number  
 B pref  
 B pres  
 B pstf  
 B psts  
 B rphf  
 S script  
 T th  
 S language  
 N number  
 S script  
 T tibetan  
 B abvm  
 B abvs  
 S autolanguage  
 S autascript



- B blwm
- B blws
- B calt
- B ccmp
- B checkmissing
- B compoundhyphen
- B curs
- B kern
- S language
- B liga
- B locl
- B mark
- B mkmk
- S mode
- N number
- S script
- S textcontrol
- B wipemath
- T tr
  - S language
  - N number
  - S script
- T uk
  - S language
  - N number
  - S script
- T uppercasing
  - N number
  - B uppercasing
- T us
  - S language
  - N number
  - S script
- T virtualmath
  - B compactmath
  - B flattenaccents

- B kern
- S language
- B mathalternates
- S mathexpansion
- S mode
- N number
- S script
- B wipemath
- T vn
  - S language
  - N number
  - S script
- T zero
  - N number
  - B zero
- F showcontext
- F splitcontext
- D synonyms
- D variants

## **symbols** table

- T emoji
- F checked
- F resolved
- F uselibrary

## **tables** table

## **toeffect** function

## **tracers** table

## **treatments** table

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

## **typefaces** table

# functions (context)

**dummy** function

# graphics (context)

|                    |          |                             |          |
|--------------------|----------|-----------------------------|----------|
| <b>backgrounds</b> | table    | F jpg                       |          |
| F fetchmultipar    |          | F png                       |          |
| F pair             |          | <b>identify</b>             | function |
| F path             |          | <b>registerpdfcompactor</b> | function |
| F point            |          | <b>registerpdffont</b>      | function |
| <b>bitmaps</b>     | table    | <b>synchronizers</b>        | table    |
| F flush            |          | F collapse                  |          |
| F load             |          | F collect                   |          |
| T loaders          |          | F extend                    |          |
| F jpeg             |          | F getbottom                 |          |
| F jpg              |          | F getd                      |          |
| F png              |          | F geth                      |          |
| F new              |          | F getkind                   |          |
| F placeholder      |          | F getsizes                  |          |
| F tocontext        |          | F gettask                   |          |
| <b>bpsize</b>      | function | F gettop                    |          |
| <b>colorspaces</b> | table    | F getw                      |          |
| <b>identifiers</b> | table    | F getx                      |          |
| F bitmap           |          | F gety                      |          |
| F jp2              |          | F prune                     |          |
| F jpeg             |          |                             |          |

## gzip (context)

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

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

## helper (context)

|                    |          |
|--------------------|----------|
| <b>getprofile</b>  | function |
| <b>mathnested</b>  | function |
| <b>mathprocess</b> | function |
| <b>mathstep</b>    | function |
| <b>snapindeed</b>  | function |

|                            |          |
|----------------------------|----------|
| <b>snaplist</b>            | function |
| <b>traversecharmmethod</b> | function |
| <b>traverseglyphmethod</b> | function |
| <b>traversehorizontal</b>  | function |
| <b>traversevertical</b>    | function |

# images (context)

|                       |          |  |                  |          |
|-----------------------|----------|--|------------------|----------|
| <b>check</b>          | function |  | B crop           |          |
| <b>checksize</b>      | function |  | B media          |          |
| <b>copy</b>           | function |  | B none           |          |
| <b>create</b>         | function |  | B trim           |          |
| <b>embed</b>          | function |  | <b>storedata</b> | function |
| <b>embedfromstore</b> | function |  | <b>totable</b>   | function |
| <b>fetchdata</b>      | function |  | <b>types</b>     | table    |
| <b>keys</b>           | table    |  | N jbig2          |          |
| <b>print</b>          | function |  | N jp2            |          |
| <b>resetdata</b>      | function |  | N jpg            |          |
| <b>resetstore</b>     | function |  | N none           |          |
| <b>scan</b>           | function |  | N pdf            |          |
| <b>serialize</b>      | function |  | N png            |          |
| <b>sizes</b>          | table    |  | N stream         |          |
| B art                 |          |  | <b>wrap</b>      | function |
| B bleed               |          |  |                  |          |

# interactions (context)

**attachments** data table

**fields** table

- F clone
- F define
- F defineset
- F insert

**general** table

- F getidentity
- F getidentityvariable

**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 setcloseddocumentaction

F setclosepageaction

F setopendocumentaction

F setopenpageaction

**renderings** 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>open</b>          | overloaded function |
| <b>bytes</b>         | function            | <b>output</b>        | overloaded function |
| <b>characters</b>    | function            | <b>pathseparator</b> | string              |
| <b>close</b>         | function            | <b>popen</b>         | overloaded function |
| <b>copydata</b>      | function            | <b>read</b>          | function            |
| <b>exists</b>        | function            | <b>readall</b>       | function            |
| <b>fileseparator</b> | string              | <b>readnumber</b>    | function            |
| <b>flush</b>         | function            | <b>readstring</b>    | function            |
| <b>gobble</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            |

# job (context)

|                          |          |                    |       |
|--------------------------|----------|--------------------|-------|
| <b>comment</b>           | function | D collected        |       |
| <b>datasets</b>          | table    | F countervalue     |       |
| D collected              |          | F extend           |       |
| F extend                 |          | F realpage         |       |
| F getdata                |          | F realpageorder    |       |
| F setdata                |          | F setstate         |       |
| D tobesaved              |          | D tobesaved        |       |
| <b>disablesave</b>       | function | <b>parwrappers</b> | table |
| <b>embedded</b>          | table    | D collected        |       |
| D collected              |          | D tobesaved        |       |
| D tobesaved              |          | <b>positions</b>   | table |
| <b>fileobjreferences</b> | table    | F b_column         |       |
| D collected              |          | F b_region         |       |
| D tobesaved              |          | F c                |       |
| <b>files</b>             | table    | D collected        |       |
| D collected              |          | F column           |       |
| F context                |          | F columnofpos      |       |
| B forcerun               |          | F copy             |       |
| F run                    |          | F depth            |       |
| D tobesaved              |          | F e_column         |       |
| <b>getrandomseed</b>     | function | F e_region         |       |
| <b>initialize</b>        | function | F enhance          |       |
| <b>linkedlists</b>       | table    | F extra            |       |
| D collected              |          | F get              |       |
| D tobesaved              |          | F getcolumndata    |       |
| <b>load</b>              | function | F getfree          |       |
| <b>loadother</b>         | function | F gethpos          |       |
| <b>meshedup</b>          | table    | F gethvrpos        |       |
| D collected              |          | F getpos           |       |
| D tobesaved              |          | F getreserved      |       |
| <b>objects</b>           | table    | F getrpos          |       |
| D collected              |          | F getsync          |       |
| F get                    |          | F gettobesaved     |       |
| F number                 |          | F getvpos          |       |
| F page                   |          | F hangafter        |       |
| F save                   |          | F hangindent       |       |
| F set                    |          | F height           |       |
| D tobesaved              |          | F hsize            |       |
| <b>pack</b>              | boolean  | N lastr            |       |
| <b>packversion</b>       | number   | N lastx            |       |
| <b>pagestates</b>        | table    | N lasty            |       |

|                    |                  |          |
|--------------------|------------------|----------|
| F leftskip         | F whd            |          |
| F lowerleft        | F width          |          |
| F lowerright       | F x              |          |
| F markregionbox    | F xy             |          |
| F n                | F y              |          |
| F onsamepage       | <b>register</b>  | function |
| F overlapping      | <b>save</b>      | function |
| F p                | <b>structure</b> | table    |
| F page             | D collected      |          |
| F paragraph        | T components     |          |
| F parindent        | T namestack      |          |
| F position         | T tobesaved      |          |
| F r                | T branches       |          |
| F region           | S name           |          |
| F registerhandlers | S type           |          |
| F replace          | <b>variables</b> | table    |
| F rightskip        | D checksums      |          |
| F set              | D collected      |          |
| F setall           | F getchecksum    |          |
| F setregionbox     | F makechecksum   |          |
| F setspec          | F restore        |          |
| F settobesaved     | F save           |          |
| D tobesaved        | F setchecksum    |          |
| F upperleft        | D tobesaved      |          |
| F upperright       | <b>version</b>   | number   |
| F used             |                  |          |

## language (basic tex)

|                         |          |
|-------------------------|----------|
| <b>clean</b>            | function |
| <b>clearhyphenation</b> | function |
| <b>clearpatterns</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 |
| <b>setwordhandler</b>   | function |

# languages (context)

|                        |            |                               |            |
|------------------------|------------|-------------------------------|------------|
| <b>addgoodiesdata</b>  | function   | F hyphenate                   |            |
| <b>addgoodiesfile</b>  | function   | F injecthyphens               |            |
| <b>appliedoptions</b>  | table      | F installmethod               |            |
| <b>associate</b>       | function   | F lasttrace                   |            |
| <b>associated</b>      | data table | F loadpatterns                |            |
| <b>association</b>     | function   | F registerexception           |            |
| <b>counters</b>        | data table | F registerpattern             |            |
| <b>current</b>         | function   | F setfeatures                 |            |
| <b>data</b>            | data table | <b>installed</b>              | function   |
| <b>decimals</b>        | data table | <b>installhandler</b>         | function   |
| <b>define</b>          | function   | <b>labels</b>                 | table      |
| <b>explicitthyphen</b> | function   | F define                      |            |
| <b>exportlanguage</b>  | function   | F split                       |            |
| <b>flatten</b>         | function   | <b>loadable</b>               | function   |
| <b>frequencies</b>     | table      | <b>loadwords</b>              | function   |
| F averagecharwidth     |            | <b>logger</b>                 | table      |
| F getdata              |            | F report                      |            |
| <b>getdata</b>         | function   | <b>nofflattened</b>           | function   |
| <b>getmetadata</b>     | function   | <b>numbers</b>                | data table |
| <b>getnumber</b>       | function   | <b>pdflanguage</b>            | function   |
| <b>goodiefiles</b>     | function   | <b>postexhyphenchar</b>       | function   |
| <b>hjcounts</b>        | table      | <b>posthyphenchar</b>         | function   |
| <b>hyphenate</b>       | function   | <b>preexhyphenchar</b>        | function   |
| <b>hyphenators</b>     | table      | <b>prehyphenchar</b>          | function   |
| T dictionaries         |            | <b>registered</b>             | data table |
| D featuresets          |            | <b>registeredactions</b>      | table      |
| F handler              |            | <b>replacements</b>           | table      |
| T methods              |            | F add                         |            |
| F expanded             |            | F addlist                     |            |
| B none                 |            | F handler                     |            |
| F original             |            | F set                         |            |
| F tex                  |            | <b>serializediscretionary</b> | function   |
| F traditional          |            | <b>setexceptions</b>          | function   |
| F popmethod            |            | <b>setgoodieshandler</b>      | function   |
| F pushmethod           |            | <b>setoptions</b>             | function   |
| F setmethod            |            | <b>setpatterns</b>            | function   |
| F setup                |            | <b>setsynonym</b>             | function   |
| F showhyphenationtrace |            | <b>setwordhandler</b>         | function   |
| T traditional          |            | <b>showdiscretionaries</b>    | function   |
| F definefeatures       |            | <b>strippedgoodiewords</b>    | function   |
| F gettrace             |            | <b>tolang</b>                 | function   |

**transliteration**

- F exception
- F handler
- F register
- F set
- F use

**unload**

**urls**

- D characters
- N lefthyphenmin
- D mapping
- B packslashes
- N righthyphenmin
- F setcharacters

**table**

**function  
table**

**version**

**visualizediscretionaries  
words**

- F check
- T data
- F disable
- F enable
- T enablers
- B enables
- F found
- F load
- T methods
- N threshold

**number**

**function  
table**

# layouts (context)

**getcanvas**               function  
**getpagedimensions**   function  
**setupcanvas**           function

**status**                table  
    F isleftpage  
    F lefttorrightpageaction

## 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>symlinktarget</b> | function            |
| <b>touch</b>         | overloaded function |
| <b>walkdir</b>       | function            |



## libraries (context)

**basiclua** data table

**basictex** data table

**builtin** data table

**extralua** data table

**extratex** data table

**functions** data table

**globals** data table

**optional** 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>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>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>setformats</b>          | function |
| <b>categories</b>           | function | <b>setformatters</b>       | function |
| <b>direct</b>               | function | <b>setlogfile</b>          | function |
| <b>disable</b>              | function | <b>setmessenger</b>        | function |
| <b>enable</b>               | function | <b>setprocessor</b>        | function |
| <b>finalactions</b>         | function | <b>settarget</b>           | function |
| <b>flush</b>                | function | <b>settimedlog</b>         | function |
| <b>loggingerrors</b>        | function | <b>settranslations</b>     | function |
| <b>messenger</b>            | function | <b>show</b>                | function |
| <b>new</b>                  | function | <b>start_page_number</b>   | function |
| <b>newline</b>              | function | <b>start_run</b>           | function |
| <b>poplogfile</b>           | function | <b>startererrorlogging</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>pushlogfile</b>          | function | <b>stopfilelogging</b>     | function |
| <b>pushtarget</b>           | function | <b>subdirect</b>           | function |
| <b>registerfinalactions</b> | function | <b>subreport</b>           | function |
| <b>report</b>               | function | <b>system</b>              | function |
| <b>reporter</b>             | function | <b>texerrormessage</b>     | function |
| <b>resetlogfile</b>         | function | <b>writer</b>              | function |

# lpdf (context)

|                                |            |                                 |          |
|--------------------------------|------------|---------------------------------|----------|
| <b>action</b>                  | function   | <b>copystring</b>               | function |
| <b>adddocumentcolorspace</b>   | function   | <b>copyunicode</b>              | function |
| <b>adddocumenttextgstate</b>   | function   | <b>deferredobject</b>           | function |
| <b>adddocumentpattern</b>      | function   | <b>delayedobject</b>            | function |
| <b>adddocumentshade</b>        | function   | <b>destinationspecification</b> | function |
| <b>addtocatalog</b>            | function   | <b>dictionary</b>               | function |
| <b>addtoinfo</b>               | function   | <b>docstring</b>                | function |
| <b>addtonames</b>              | function   | <b>encodingvalues</b>           | table    |
| <b>addtopageattributes</b>     | function   | N base16                        |          |
| <b>addtopageresources</b>      | function   | N base85                        |          |
| <b>addtopagesattributes</b>    | function   | N decoded                       |          |
| <b>addxmpinfo</b>              | function   | N encoded                       |          |
| <b>annotationspecification</b> | function   | N plain                         |          |
| <b>array</b>                   | function   | N utf16be                       |          |
| <b>attachmentsymbols</b>       | function   | N utf16le                       |          |
| <b>boolean</b>                 | function   | <b>endpoints</b>                | table    |
| <b>border</b>                  | function   | S Div                           |          |
| <b>checkedkey</b>              | function   | S Part                          |          |
| <b>checkedresources</b>        | function   | S Sect                          |          |
| <b>checkedvalue</b>            | function   | <b>epdf</b>                     | table    |
| <b>circularshade</b>           | function   | F allcontent                    |          |
| <b>close</b>                   | function   | F analyzefonts                  |          |
| <b>cmykcode</b>                | function   | F contentplugin                 |          |
| <b>collectedresources</b>      | function   | F contenttostring               |          |
| <b>color</b>                   | function   | F contenttotext                 |          |
| <b>colorspace</b>              | function   | D encryptioncodes               |          |
| <b>colorspaceconstants</b>     | data table | F expanded                      |          |
| <b>colorspec</b>               | function   | F expandwidths                  |          |
| <b>colorvalue</b>              | function   | F fontplugin                    |          |
| <b>colorvalues</b>             | function   | F getpagecontent                |          |
| <b>commentsymbols</b>          | function   | F getstructure                  |          |
| <b>compressdata</b>            | function   | T helpers                       |          |
| <b>compresslevel</b>           | function   | F tounicodetable                |          |
| <b>constant</b>                | function   | T image                         |          |
| <b>copyarray</b>               | function   | F close                         |          |
| <b>copyboolean</b>             | function   | F copy                          |          |
| <b>copyconstant</b>            | function   | F new                           |          |
| <b>copydictionary</b>          | function   | F open                          |          |
| <b>copyfloat</b>               | function   | F query                         |          |
| <b>copyinteger</b>             | function   | F load                          |          |
| <b>copynumber</b>              | function   | F mergewidths                   |          |

|                               |          |                              |            |
|-------------------------------|----------|------------------------------|------------|
| D objectcodes                 |          | N FileSelect                 |            |
| F objectrange                 |          | N Multiline                  |            |
| F objecttype                  |          | N NoExport                   |            |
| F pageplugin                  |          | N NoToggleToOff              |            |
| F parsecontent                |          | N Password                   |            |
| F producer                    |          | N PopUp                      |            |
| T resolvers                   |          | N PushButton                 |            |
| F destinations                |          | N Radio                      |            |
| F embeddedfiles               |          | N RadiosInUnison             |            |
| F javascripts                 |          | N ReadOnly                   |            |
| F layers                      |          | N Required                   |            |
| F pages                       |          | N RichText                   |            |
| F structure                   |          | N Sort                       |            |
| F widgets                     |          | N file                       |            |
| F unload                      |          | N fixed                      |            |
| F verboseobject               |          | N nocheck                    |            |
| <b>escaped</b>                | function | N protected                  |            |
| <b>finalizeddocument</b>      | function | N readonly                   |            |
| <b>finalizepage</b>           | function | N required                   |            |
| <b>finalizesignature</b>      | function | N sorted                     |            |
| <b>finishtransparencycode</b> | function | N unavailable                |            |
| <b>flags</b>                  | table    | <b>flushfonts</b>            | function   |
| T annotations                 |          | <b>flushgroup</b>            | function   |
| N AutoView                    |          | <b>flushobject</b>           | function   |
| N Hidden                      |          | <b>flushstreamfileobject</b> | function   |
| N Invisible                   |          | <b>flushstreamobject</b>     | function   |
| N Locked                      |          | <b>fonts</b>                 | table      |
| N LockedContents              |          | F color_direct               |            |
| N NoRotate                    |          | F color_indirect             |            |
| N NoView                      |          | <b>formats</b>               | data table |
| N NoZoom                      |          | <b>frombytes</b>             | function   |
| N Print                       |          | <b>fromeight</b>             | function   |
| N Printable                   |          | <b>frompdfdoc</b>            | function   |
| N ReadOnly                    |          | <b>fromsixteen</b>           | function   |
| N ToggleNoView                |          | <b>getcatalog</b>            | function   |
| N auto                        |          | <b>getcompression</b>        | function   |
| N hidden                      |          | <b>getfontname</b>           | function   |
| N printable                   |          | <b>getfontobjectnumber</b>   | function   |
| T widgets                     |          | <b>getformatoption</b>       | function   |
| N Comb                        |          | <b>getinfo</b>               | function   |
| N CommitOnSelChange           |          | <b>getmatrix</b>             | function   |
| N DoNotScroll                 |          | <b>getnofpages</b>           | function   |
| N DoNotSpellCheck             |          | <b>getpageproperties</b>     | function   |
| N Edit                        |          | <b>getpagereference</b>      | function   |

|                            |          |                                  |          |
|----------------------------|----------|----------------------------------|----------|
| <b>getpagetags</b>         | function | <b>pdfcolor</b>                  | function |
| <b>getpos</b>              | function | <b>pdftimestamp</b>              | function |
| <b>gettaggingstatus</b>    | function | <b>permissions</b>               | table    |
| <b>gettrailerid</b>        | function | N access                         |          |
| <b>getversion</b>          | function | N add                            |          |
| <b>getxformname</b>        | function | N assemble                       |          |
| <b>graycode</b>            | function | N extract                        |          |
| <b>h_hex_2</b>             | table    | N fillin                         |          |
| S                          |          | N modify                         |          |
| S                          |          | N print                          |          |
| S                          |          | N quality                        |          |
| S                          |          | <b>preparesignature</b>          | function |
| S                          |          | <b>print</b>                     | function |
| S (                        |          | <b>procset</b>                   | function |
| S )                        |          | <b>protectresources</b>          | boolean  |
| S \                        |          | <b>quads</b>                     | function |
| <b>h_hex_4</b>             | table    | <b>rectangle</b>                 | function |
| <b>hasmatrix</b>           | function | <b>reference</b>                 | function |
| <b>immediateobject</b>     | function | <b>registerannotation</b>        | function |
| <b>includeimage</b>        | function | <b>registerdestination</b>       | function |
| <b>initialize</b>          | function | <b>registerdocumentfinalizer</b> | function |
| <b>injectors</b>           | table    | <b>registerfontmethod</b>        | function |
| F bitmap                   |          | <b>registerinitializer</b>       | function |
| F jp2                      |          | <b>registerpagefinalizer</b>     | function |
| F jpg                      |          | <b>registerpattern</b>           | function |
| F png                      |          | <b>registersignature</b>         | function |
| <b>injectxmpinfo</b>       | function | <b>replacexmpinfo</b>            | function |
| <b>insertxmpinfo</b>       | function | <b>reserveobject</b>             | function |
| <b>lastreferredpage</b>    | function | <b>rgbcode</b>                   | function |
| <b>layerreference</b>      | function | <b>rotationcm</b>                | function |
| <b>limited</b>             | function | <b>setcompression</b>            | function |
| <b>linearshade</b>         | function | <b>setencryption</b>             | function |
| <b>literal</b>             | function | <b>setpageorder</b>              | function |
| <b>majorversion</b>        | function | <b>setpagestate</b>              | function |
| <b>makenametree</b>        | function | <b>setpagetag</b>                | function |
| <b>minorversion</b>        | function | <b>setutfstringmode</b>          | function |
| <b>noffontregistries</b>   | function | <b>setversion</b>                | function |
| <b>nopages</b>             | function | <b>sharedobject</b>              | function |
| <b>null</b>                | function | <b>shareobject</b>               | function |
| <b>number</b>              | function | <b>shareobjectreference</b>      | function |
| <b>object</b>              | function | <b>spotcode</b>                  | function |
| <b>objectcompresslevel</b> | function | <b>stream</b>                    | function |
| <b>pagereference</b>       | function | <b>string</b>                    | function |
| <b>patternstream</b>       | function | <b>supportedformats</b>          | function |

|                           |          |                               |            |
|---------------------------|----------|-------------------------------|------------|
| <b>tocidset</b>           | function | <b>unicode</b>                | function   |
| <b>toeight</b>            | function | <b>usedcharacters</b>         | table      |
| <b>topdfdoc</b>           | function | <b>usedfontnames</b>          | table      |
| <b>topermissions</b>      | function | N dejavusansmonoboldttf-1-0-0 |            |
| <b>tosixteen</b>          | function | <b>usedfontobjects</b>        | table      |
| <b>transparency</b>       | function | N dejavusansmonoboldttf-1-0-0 |            |
| <b>transparencycode</b>   | function | <b>usedfontstreams</b>        | data table |
| <b>transparencygroups</b> | table    | <b>usedindices</b>            | table      |
| B none                    |          | T dejavusansmonoboldttf-1-0-0 |            |
| <b>transparencyvalue</b>  | function | <b>verbose</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>utfR</b>                  | function   |
| <b>counter</b>      | function | <b>utfchartabletopattern</b> | function   |
| <b>endstripper</b>  | function | <b>utfreplacer</b>           | function   |
| <b>finder</b>       | function | <b>version</b>               | string     |



## lua (basic tex)

|                            |                     |                                |            |
|----------------------------|---------------------|--------------------------------|------------|
| <b>addnibble</b>           | function            | <b>getstacktop</b>             | function   |
| <b>bytecode</b>            | table               | <b>getstartupfile</b>          | function   |
| <b>bytedata</b>            | data table          | <b>getstringkeys</b>           | function   |
| <b>bytdone</b>             | table               | <b>getversion</b>              | function   |
| <b>callbytecode</b>        | function            | <b>lastbytecode</b>            | number     |
| <b>comparekeys</b>         | function            | <b>messages</b>                | data table |
| <b>finalizeinitex</b>      | function            | <b>newindex</b>                | function   |
| <b>firstbytecode</b>       | number              | <b>newtable</b>                | function   |
| <b>get_functions_table</b> | function            | <b>numbers</b>                 | data table |
| <b>getallkeys</b>          | function            | <b>protectglobal</b>           | function   |
| <b>getbytecode</b>         | function            | <b>registercode</b>            | function   |
| <b>getcheckedkeys</b>      | function            | <b>registeredcodes</b>         | function   |
| <b>getcurrenttime</b>      | function            | <b>registerglobal</b>          | function   |
| <b>getdebuginfo</b>        | function            | <b>registerinitexfinalizer</b> | function   |
| <b>getexitcode</b>         | function            | <b>registername</b>            | function   |
| <b>getfunctionstable</b>   | overloaded function | <b>setbytecode</b>             | function   |
| <b>getnibble</b>           | function            | <b>setexitcode</b>             | function   |
| <b>getnumerickeys</b>      | function            | <b>setnibble</b>               | function   |
| <b>getpreciseseconds</b>   | function            | <b>startupfile</b>             | string     |
| <b>getpreciseticks</b>     | function            | <b>subnibble</b>               | function   |
| <b>getruntime</b>          | function            | <b>version</b>                 | string     |

## luac (extra lua)

```
inspect function  
print    function
```

# luatex (context)

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

# lxml (context)

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

|                         |          |
|-------------------------|----------|
| <b>pushmatch</b>        | function |
| <b>raw</b>              | function |
| <b>rawroot</b>          | function |
| <b>rawtex</b>           | function |
| <b>refatt</b>           | function |
| <b>register</b>         | function |
| <b>registerentity</b>   | function |
| <b>removesetup</b>      | function |
| <b>replace</b>          | function |
| <b>resetcdata</b>       | function |
| <b>resetsetups</b>      | function |
| <b>resolvedentity</b>   | function |
| <b>root</b>             | function |
| <b>save</b>             | function |
| <b>serialize</b>        | function |
| <b>setaction</b>        | function |
| <b>setatt</b>           | function |
| <b>setattribute</b>     | function |
| <b>setcdata</b>         | function |
| <b>setcommandtonone</b> | function |
| <b>setcommandtotext</b> | function |
| <b>setpar</b>           | function |
| <b>setparam</b>         | function |
| <b>setparameter</b>     | function |
| <b>setsetup</b>         | function |
| <b>snippet</b>          | function |

|                         |            |
|-------------------------|------------|
| <b>sorters</b>          | table      |
| F add                   |            |
| F compare               |            |
| F flush                 |            |
| F reset                 |            |
| F show                  |            |
| F sort                  |            |
| <b>splitid</b>          | function   |
| <b>startraw</b>         | function   |
| <b>startunesescaped</b> | function   |
| <b>stopraw</b>          | function   |
| <b>stopunesescaped</b>  | function   |
| <b>store</b>            | function   |
| <b>strip</b>            | function   |
| <b>stripped</b>         | function   |
| <b>tag</b>              | function   |
| <b>texatt</b>           | function   |
| <b>text</b>             | function   |
| <b>tobuffer</b>         | function   |
| <b>tofile</b>           | function   |
| <b>toparameters</b>     | function   |
| <b>toverbatim</b>       | function   |
| <b>verbatim</b>         | function   |
| <b>withindex</b>        | function   |
| <b>xmltexhandler</b>    | data table |

## math (basic lua)

|                    |          |                       |                     |
|--------------------|----------|-----------------------|---------------------|
| <b>abs</b>         | function | <b>maxinteger</b>     | number              |
| <b>acos</b>        | function | <b>min</b>            | function            |
| <b>asin</b>        | function | <b>mininteger</b>     | number              |
| <b>atan</b>        | function | <b>mod</b>            | function            |
| <b>atan2</b>       | function | <b>modf</b>           | function            |
| <b>ceil</b>        | function | <b>odd</b>            | function            |
| <b>ceiling</b>     | function | <b>pi</b>             | number              |
| <b>cos</b>         | function | <b>pow</b>            | function            |
| <b>cosd</b>        | function | <b>rad</b>            | function            |
| <b>cosh</b>        | function | <b>random</b>         | overloaded function |
| <b>deg</b>         | function | <b>randomseed</b>     | function            |
| <b>div</b>         | function | <b>round</b>          | function            |
| <b>even</b>        | function | <b>setrandomseedi</b> | function            |
| <b>exp</b>         | function | <b>sin</b>            | function            |
| <b>floor</b>       | function | <b>sind</b>           | function            |
| <b>fmod</b>        | function | <b>sinh</b>           | function            |
| <b>frexp</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            |

# mathematics (context)

|                               |            |                             |            |
|-------------------------------|------------|-----------------------------|------------|
| <b>addfallbacks</b>           | function   | <b>familyname</b>           | function   |
| <b>addvariant</b>             | function   | <b>functiontype</b>         | function   |
| <b>alphabets</b>              | data table | <b>gaps</b>                 | data table |
| <b>alternatives</b>           | data table | <b>getblobindex</b>         | function   |
| <b>beforepassingfonttotex</b> | function   | <b>getboth</b>              | function   |
| <b>big</b>                    | function   | <b>getdomainname</b>        | function   |
| <b>boldmap</b>                | data table | <b>getextensibledata</b>    | function   |
| <b>categories</b>             | table      | <b>getmathblob</b>          | function   |
| D functions                   |            | <b>getoptionallabel</b>     | function   |
| <b>charactersets</b>          | data table | <b>getstyle</b>             | function   |
| <b>checkaftercopyingfont</b>  | function   | <b>gettextblob</b>          | function   |
| <b>classes</b>                | data table | <b>getverboselabel</b>      | function   |
| <b>classnameses</b>           | data table | <b>horizontalcode</b>       | function   |
| <b>codes</b>                  | data table | <b>initializeparameters</b> | function   |
| <b>define</b>                 | function   | <b>makefont</b>             | function   |
| <b>dictionaries</b>           | table      | <b>mapremap</b>             | data table |
| D data                        |            | <b>markblobindexdone</b>    | function   |
| D defaults                    |            | <b>overloadparameters</b>   | function   |
| D groups                      |            | <b>preset</b>               | function   |
| F groupset                    |            | <b>presets</b>              | table      |
| F groupsetgroup               |            | T less                      |            |
| F name                        |            | T more                      |            |
| D names                       |            | T zero                      |            |
| F registercharacter           |            | <b>privatebase</b>          | number     |
| F registergroup               |            | <b>registerextensible</b>   | function   |
| F registergroupset            |            | <b>registersimplematrix</b> | function   |
| D sets                        |            | <b>registerverboselabel</b> | function   |
| D variants                    |            | <b>remapalphabets</b>       | function   |
| <b>dimensions</b>             | function   | <b>renderextensible</b>     | function   |
| <b>disablecollecting</b>      | function   | <b>renderings</b>           | table      |
| <b>domainlabels</b>           | table      | D mappings                  |            |
| <b>domainnames</b>            | table      | D numbers                   |            |
| N default                     |            | D sets                      |            |
| <b>enablecollecting</b>       | function   | <b>renderset</b>            | function   |
| <b>extensiblecode</b>         | function   | <b>resetattributes</b>      | function   |
| <b>extensibles</b>            | data table | <b>scaleparameters</b>      | function   |
| <b>extrabase</b>              | number     | <b>setextensibledata</b>    | function   |
| <b>fallbacks</b>              | table      | <b>setmathsymbol</b>        | function   |
| F apply                       |            | <b>sets</b>                 | data table |
| F install                     |            | <b>setsnapping</b>          | function   |
| <b>fallbackstyleattr</b>      | function   | <b>setvariant</b>           | function   |

|                               |            |                        |
|-------------------------------|------------|------------------------|
| <b>styles</b>                 | data table | F fixaccents           |
| <b>syncboth</b>               | function   | F fixellipses          |
| <b>syncname</b>               | function   | F fixintegrals         |
| <b>syncstyle</b>              | function   | F fixoldschool         |
| <b>tagging</b>                | table      | F fixprimes            |
| B mfenced                     |            | F fixradicals          |
| <b>toengineclass</b>          | function   | F fixslashes           |
| <b>toname</b>                 | function   | F fixvariants          |
| <b>tostyle</b>                | function   | F flattenaccents       |
| <b>tweakaftercopyingfont</b>  | function   | F fontname             |
| <b>tweakbeforecopyingfont</b> | function   | F inspect              |
| <b>tweaks</b>                 | table      | F keepbases            |
| F accentdimensions            |            | F kernpairs            |
| F action                      |            | F kerns                |
| F addactuarian                |            | T kernsets             |
| F addarrows                   |            | T .,                   |
| F addbars                     |            | F margins              |
| F addcomposites               |            | F message              |
| F addequals                   |            | F moveitalics          |
| F addfourier                  |            | F movelimits           |
| F addmirrors                  |            | F parameters           |
| F addparts                    |            | F radicalbodymargins   |
| F addprivates                 |            | F radicaldegreeanchors |
| F addrules                    |            | F replace              |
| F addscripts                  |            | F replacealphabets     |
| F bigslots                    |            | F replacerules         |
| F checkaccents                |            | F setoptions           |
| F checkspacing                |            | F setovershoots        |
| F copyaccents                 |            | F showinfo             |
| T datasets                    |            | F simplifykerns        |
| T accentdimensions            |            | F sortvariants         |
| T accent                      |            | F staircase            |
| T over                        |            | T subsets              |
| T under                       |            | T acenorsuvxz          |
| T addarrows                   |            | T bhklt                |
| T addscripts                  |            | T d                    |
| T checkspacing                |            | T dotless              |
| T copyaccents                 |            | T f                    |
| T fixprimes                   |            | T gjqy                 |
| T fixslashes                  |            | T horizontalfences     |
| T wipecues                    |            | T i                    |
| F dimensions                  |            | T integrals            |
| F extendaccents               |            | T letterlike           |
| F fallbacks                   |            | T mw                   |



|                |                       |            |
|----------------|-----------------------|------------|
| T p            | <b>utfmathaccent</b>  | function   |
| F substitute   | <b>utfmathclass</b>   | function   |
| F topanchors   | <b>utfmathcommand</b> | function   |
| F tweaks       | <b>utfmathfiller</b>  | function   |
| F version      | <b>utfmathstretch</b> | function   |
| F wipeanchors  | <b>variantcode</b>    | function   |
| F wipecues     | <b>variantcount</b>   | function   |
| F wipeitalics  | <b>virtualize</b>     | function   |
| F wipevariants | <b>virtualized</b>    | data table |

## md5 (extra lua)

|            |          |
|------------|----------|
| <b>HEX</b> | function |
| <b>dec</b> | function |
| <b>hex</b> | function |

|                |          |
|----------------|----------|
| <b>sum</b>     | function |
| <b>sumHEXA</b> | function |
| <b>sumhexa</b> | function |

# metapost (context)

|                           |          |                   |
|---------------------------|----------|-------------------|
| <b>checkformat</b>        | function | N newinternal     |
| <b>checktracingonline</b> | function | N nullary         |
| <b>cm</b>                 | function | N numeric         |
| <b>codes</b>              | table    | N of              |
| N addto                   |          | N ofbinary        |
| N ampersand               |          | N onlyset         |
| N and                     |          | N parametertype   |
| N assignment              |          | N pathconnect     |
| N atleast                 |          | N pathjoin        |
| N begingroup              |          | N plusorminus     |
| N btex                    |          | N primarybinary   |
| N capsule                 |          | N primarydef      |
| N colon                   |          | N property        |
| N comma                   |          | N protection      |
| N controls                |          | N relax           |
| N curl                    |          | N repeatloop      |
| N cycle                   |          | N rightbrace      |
| N definedmacro            |          | N rightbracket    |
| N delimiters              |          | N rightdelimiter  |
| N endgroup                |          | N runscript       |
| N equals                  |          | N save            |
| N etex                    |          | N scantokens      |
| N everyjob                |          | N secondarybinary |
| N exittest                |          | N secondarydef    |
| N expandafter             |          | N semicolon       |
| N fiorelse                |          | N setbounds       |
| N if                      |          | N shipout         |
| N input                   |          | N show            |
| N interim                 |          | N slash           |
| N internal                |          | N step            |
| N iteration               |          | N stop            |
| N leftbrace               |          | N str             |
| N leftbracket             |          | N string          |
| N leftdelimiter           |          | N tag             |
| N let                     |          | N tension         |
| N macrodef                |          | N tertiarybinary  |
| N macrospecial            |          | N tertiarydef     |
| N maketext                |          | N thingstoadd     |
| N message                 |          | N to              |
| N mode                    |          | N typename        |
| N newbytemap              |          | N unary           |

|                          |            |
|--------------------------|------------|
| N undefinedcs            |            |
| N until                  |            |
| N void                   |            |
| N with                   |            |
| N within                 |            |
| N write                  |            |
| <b>colorinitializer</b>  | function   |
| <b>convert</b>           | function   |
| <b>currentmpx</b>        | function   |
| <b>currentmpxstatus</b>  | function   |
| <b>defaultformat</b>     | string     |
| <b>defaultinstance</b>   | string     |
| <b>defaultmethod</b>     | string     |
| <b>directrun</b>         | function   |
| <b>escaped</b>           | function   |
| <b>exectime</b>          | table      |
| <b>extensiondata</b>     | data table |
| <b>filterclippath</b>    | function   |
| <b>flush</b>             | function   |
| <b>flushers</b>          | table      |
| T pdf                    |            |
| F flushfigure            |            |
| F startfigure            |            |
| F stopfigure             |            |
| F textfigure             |            |
| F tocomment              |            |
| <b>flushnormalpath</b>   | function   |
| <b>fonts</b>             | table      |
| F define                 |            |
| <b>format_number</b>     | function   |
| <b>format_string</b>     | function   |
| <b>formatnumber</b>      | function   |
| <b>getbackendoption</b>  | function   |
| <b>getbendtolerance</b>  | function   |
| <b>getbuffer</b>         | function   |
| <b>getclippath</b>       | function   |
| <b>getextensions</b>     | function   |
| <b>getextradata</b>      | function   |
| <b>gethashentries</b>    | function   |
| <b>getinstancebyname</b> | function   |
| <b>getinstanceinfo</b>   | function   |
| <b>getinstancenames</b>  | function   |
| <b>getjobdata</b>        | function   |
| <b>getmovetolerance</b>  | function   |

|                             |          |
|-----------------------------|----------|
| <b>getparameter</b>         | function |
| <b>getparameterpreset</b>   | function |
| <b>getparameterset</b>      | function |
| <b>getrecord</b>            | function |
| <b>getstatistics</b>        | function |
| <b>gettext</b>              | function |
| <b>gettolerance</b>         | function |
| <b>graphic</b>              | function |
| <b>graphic_base_pass</b>    | function |
| <b>hascurvature</b>         | function |
| <b>includesvgbuffer</b>     | function |
| <b>includesvgfile</b>       | function |
| <b>installplugin</b>        | function |
| <b>isobject</b>             | function |
| <b>knownparameters</b>      | table    |
| <b>lastlog</b>              | string   |
| <b>load</b>                 | function |
| <b>maketext</b>             | function |
| <b>mesh</b>                 | function |
| <b>metafonts</b>            | table    |
| <b>metafun</b>              | table    |
| F interpolate               |          |
| F topath                    |          |
| <b>mptopdf</b>              | table    |
| F convertmpstopdf           |          |
| N nofconverted              |          |
| <b>n</b>                    | number   |
| <b>newlogger</b>            | function |
| <b>nofruns</b>              | number   |
| <b>nofscriptruns</b>        | function |
| <b>nvformat</b>             | function |
| <b>pdf literals</b>         | function |
| <b>pluginactions</b>        | function |
| <b>popformat</b>            | function |
| <b>popscriptrunner</b>      | function |
| <b>popvariable</b>          | function |
| <b>popvariables</b>         | function |
| <b>preparetexttextsdata</b> | function |
| <b>process</b>              | function |
| <b>processing</b>           | function |
| <b>processplugins</b>       | function |
| <b>properties</b>           | table    |
| <b>pushformat</b>           | function |
| <b>pushscriptrunner</b>     | function |

|                            |          |                         |          |
|----------------------------|----------|-------------------------|----------|
| <b>pushvariable</b>        | function | <b>N %</b>              |          |
| <b>pushvariables</b>       | function | <b>N bp</b>             |          |
| <b>quionerror</b>          | boolean  | <b>N cm</b>             |          |
| <b>reducetogray</b>        | boolean  | <b>N em</b>             |          |
| <b>registerdirect</b>      | function | <b>N ex</b>             |          |
| <b>registerscript</b>      | function | <b>N in</b>             |          |
| <b>registertokens</b>      | function | <b>N mm</b>             |          |
| <b>remappedtext</b>        | function | <b>N pc</b>             |          |
| <b>remaptext</b>           | function | <b>N pt</b>             |          |
| <b>reporterror</b>         | function | <b>N px</b>             |          |
| <b>reportsvgfonts</b>      | function | <b>svgglyphstomp</b>    | function |
| <b>reset</b>               | function | <b>svgshapestomp</b>    | function |
| <b>resetbackendoptions</b> | function | <b>svgshapestopdf</b>   | function |
| <b>resetlastlog</b>        | function | <b>svgsplitcolor</b>    | function |
| <b>resetplugins</b>        | function | <b>svgtomp</b>          | function |
| <b>run</b>                 | function | <b>svgtopdf</b>         | function |
| <b>runinternal</b>         | function | <b>sxsy</b>             | function |
| <b>runscript</b>           | function | <b>tex</b>              | table    |
| <b>scanparameters</b>      | function | <b>F get</b>            |          |
| <b>scriptindex</b>         | function | <b>F reset</b>          |          |
| <b>setbendtolerance</b>    | function | <b>F set</b>            |          |
| <b>setbuffer</b>           | function | <b>F setfrombuffer</b>  |          |
| <b>setextensions</b>       | function | <b>texerrors</b>        | boolean  |
| <b>setlogging</b>          | function | <b>texexp</b>           | function |
| <b>setmovetolerance</b>    | function | <b>theclippath</b>      | function |
| <b>setoutercolor</b>       | function | <b>tographic</b>        | function |
| <b>setparameter</b>        | function | <b>totable</b>          | function |
| <b>setparameterset</b>     | function | <b>types</b>            | table    |
| <b>setrecord</b>           | function | <b>N boolean</b>        |          |
| <b>settext</b>             | function | <b>N cmykcolor</b>      |          |
| <b>settolerance</b>        | function | <b>N color</b>          |          |
| <b>setvariable</b>         | function | <b>N dependent</b>      |          |
| <b>showlog</b>             | boolean  | <b>N independent</b>    |          |
| <b>showsvgpage</b>         | function | <b>N known</b>          |          |
| <b>simple</b>              | function | <b>N nep</b>            |          |
| <b>splitprescript</b>      | function | <b>N numeric</b>        |          |
| <b>startgraphic</b>        | function | <b>N pair</b>           |          |
| <b>startsvghashing</b>     | function | <b>N path</b>           |          |
| <b>stopgraphic</b>         | function | <b>N pen</b>            |          |
| <b>stopsvghashing</b>      | function | <b>N picture</b>        |          |
| <b>svformat</b>            | function | <b>N protodependent</b> |          |
| <b>svgcachefile</b>        | boolean  | <b>N string</b>         |          |
| <b>svgcolorremapper</b>    | function | <b>N structured</b>     |          |
| <b>svgfactors</b>          | table    | <b>N suffixedmacro</b>  |          |

N tokenlist

N transform

N unknownboolean

N unknownnep

N unknownpath

N unknownpen

N unknownpicture

N unknownstring

N unsuffixedmacro

N vacuous

**typesvgpage**

**unload**

**untagvariable**

**variables**

function

function

function

table

## mime (context)

**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)

|                               |          |                                   |          |
|-------------------------------|----------|-----------------------------------|----------|
| <b>autoinject</b>             | function | <b>flatten</b>                    | function |
| <b>aux</b>                    | function | <b>flush</b>                      | function |
| F boolean                     |          | <b>format</b>                     | function |
| F color                       |          | <b>formatted</b>                  | function |
| F direct                      |          | <b>fprint</b>                     | function |
| F draw                        |          | <b>get</b>                        | table    |
| F fill                        |          | F hashentry                       |          |
| F flush                       |          | <b>getbytemap</b>                 | function |
| F fprint                      |          | <b>getbytemapdata</b>             | function |
| F integer                     |          | <b>getlastaddtype</b>             | function |
| F number                      |          | <b>graphformat</b>                | function |
| F numeric                     |          | <b>inject</b>                     | function |
| F pair                        |          | F boolean                         |          |
| F pairpoints                  |          | F cmykcolor                       |          |
| F path                        |          | F color                           |          |
| F pathpoints                  |          | F integer                         |          |
| F points                      |          | F number                          |          |
| F print                       |          | F numeric                         |          |
| F quadruple                   |          | F pair                            |          |
| F quadruplepoints             |          | F path                            |          |
| F quoted                      |          | F pt                              |          |
| F size                        |          | F quadruplet                      |          |
| F string                      |          | F string                          |          |
| F transform                   |          | F transform                       |          |
| F triplet                     |          | F triplet                         |          |
| F tripletpoints               |          | F vector                          |          |
| F vprint                      |          | F vectors                         |          |
| <b>boolean</b>                | function | F whatever                        |          |
| <b>bytemap_load_from_file</b> | function | F whd                             |          |
| <b>cleaned</b>                | function | F xy                              |          |
| <b>color</b>                  | function | <b>integer</b>                    | function |
| <b>dataset</b>                | function | <b>lmt_color_functions</b>        | table    |
| <b>datasets</b>               | function | F shade                           |          |
| F load                        |          | F step                            |          |
| <b>direct</b>                 | function | <b>lmt_contours_bitmap_get</b>    | function |
| <b>downgradebytemap</b>       | function | <b>lmt_contours_bitmap_set</b>    | function |
| <b>downsamplebytemap</b>      | function | <b>lmt_contours_cleanup</b>       | function |
| <b>draw</b>                   | function | <b>lmt_contours_color</b>         | function |
| <b>expandtex</b>              | function | <b>lmt_contours_edge_get_band</b> | function |
| <b>fill</b>                   | function | <b>lmt_contours_edge_get_cell</b> | function |
| <b>fillbytemap</b>            | function | <b>lmt_contours_edge_paths</b>    | function |



|                                      |          |                               |          |
|--------------------------------------|----------|-------------------------------|----------|
| <b>lmt_contours_edge_set</b>         | function | <b>loadbytemap</b>            | function |
| <b>lmt_contours_edge_set_by_band</b> | function | <b>loadbytemapfile</b>        | function |
| <b>lmt_contours_edge_set_by_cell</b> | function | <b>mesh_register</b>          | function |
| <b>lmt_contours_format</b>           | function | <b>mf_blob_add</b>            | function |
| <b>lmt_contours_function</b>         | function | <b>mf_blob_dimensions</b>     | function |
| <b>lmt_contours_maxmean</b>          | function | <b>mf_blob_index</b>          | function |
| <b>lmt_contours_maxz</b>             | function | <b>mf_blob_new</b>            | function |
| <b>lmt_contours_minmean</b>          | function | <b>mf_blob_raw_content</b>    | function |
| <b>lmt_contours_minz</b>             | function | <b>mf_blob_raw_dimensions</b> | function |
| <b>lmt_contours_nofvalues</b>        | function | <b>mf_blob_raw_reset</b>      | function |
| <b>lmt_contours_nx</b>               | function | <b>mf_blob_raw_toutf</b>      | function |
| <b>lmt_contours_ny</b>               | function | <b>mf_blob_raw_wipe</b>       | function |
| <b>lmt_contours_range</b>            | function | <b>mf_blob_size</b>           | function |
| <b>lmt_contours_shade_paths</b>      | function | <b>mf_blob_width</b>          | function |
| <b>lmt_contours_shade_set</b>        | function | <b>mf_external_figure</b>     | function |
| <b>lmt_contours_shape_paths</b>      | function | <b>mf_finish_saving_data</b>  | function |
| <b>lmt_contours_start</b>            | function | <b>mf_formatted_text</b>      | function |
| <b>lmt_contours_stop</b>             | function | <b>mf_get_outline_text</b>    | function |
| <b>lmt_contours_value</b>            | function | <b>mf_graphic_text</b>        | function |
| <b>lmt_contours_xrange</b>           | function | <b>mf_inject_blob</b>         | function |
| <b>lmt_contours_yrange</b>           | function | <b>mf_map_move</b>            | function |
| <b>lmt_function_x</b>                | function | <b>mf_map_text</b>            | function |
| <b>lmt_glyphshape_accent</b>         | function | <b>mf_named_color</b>         | function |
| <b>lmt_glyphshape_baseline</b>       | function | <b>mf_outline_text</b>        | function |
| <b>lmt_glyphshape_boundingbox</b>    | function | <b>mf_save_data</b>           | function |
| <b>lmt_glyphshape_depth</b>          | function | <b>mf_script_index</b>        | function |
| <b>lmt_glyphshape_height</b>         | function | <b>mf_start_saving_data</b>   | function |
| <b>lmt_glyphshape_italic</b>         | function | <b>mf_stop_saving_data</b>    | function |
| <b>lmt_glyphshape_llx</b>            | function | <b>mode</b>                   | function |
| <b>lmt_glyphshape_n</b>              | function | <b>n</b>                      | function |
| <b>lmt_glyphshape_path</b>           | function | <b>newbytemap</b>             | function |
| <b>lmt_glyphshape_start</b>          | function | <b>number</b>                 | function |
| <b>lmt_glyphshape_stop</b>           | function | <b>numeric</b>                | function |
| <b>lmt_glyphshape_usedbox</b>        | function | <b>pair</b>                   | function |
| <b>lmt_glyphshape_usedline</b>       | function | <b>pairpoints</b>             | function |
| <b>lmt_glyphshape_width</b>          | function | <b>path</b>                   | function |
| <b>lmt_mesh_set</b>                  | function | <b>pathpoints</b>             | function |
| <b>lmt_mesh_update</b>               | function | <b>points</b>                 | function |
| <b>lmt_poisson_generate</b>          | function | <b>print</b>                  | function |
| <b>lmt_start_potrace</b>             | function | F boolean                     |          |
| <b>lmt_step_potrace</b>              | function | F color                       |          |
| <b>lmt_stop_potrace</b>              | function | F direct                      |          |
| <b>lmt_surface_do</b>                | function | F draw                        |          |
| <b>lmt_svg_include</b>               | function | F fill                        |          |

|                        |          |                         |          |
|------------------------|----------|-------------------------|----------|
| F flush                |          | F expression            |          |
| F fprintf              |          | F integer               |          |
| F integer              |          | F next                  |          |
| F number               |          | F number                |          |
| F numeric              |          | F numeric               |          |
| F pair                 |          | F pair                  |          |
| F pairpoints           |          | F path                  |          |
| F path                 |          | F pen                   |          |
| F pathpoints           |          | F property              |          |
| F points               |          | F string                |          |
| F print                |          | F symbol                |          |
| F quadruple            |          | F token                 |          |
| F quadruplepoints      |          | T tokenscanners         |          |
| F quoted               |          | F transform             |          |
| F size                 |          | T typescanners          |          |
| F string               |          | F whatever              |          |
| F transform            |          | <b>set</b>              | table    |
| F triplet              |          | <b>setbytemap</b>       | function |
| F tripletpoints        |          | <b>setbytemapoctave</b> | function |
| F vprint               |          | <b>size</b>             | function |
| <b>processbytemap</b>  | function | <b>skip</b>             | table    |
| <b>processingmode</b>  | function | F token                 |          |
| <b>quadruple</b>       | function | <b>solve</b>            | function |
| <b>quadruplepoints</b> | function | <b>string</b>           | function |
| <b>quoted</b>          | function | <b>systemmode</b>       | function |
| <b>report</b>          | function | <b>transform</b>        | function |
| <b>scan</b>            | table    | <b>triplet</b>          | function |
| F boolean              |          | <b>tripletpoints</b>    | function |
| F cmykcolor            |          | <b>vprint</b>           | function |
| F color                |          |                         |          |

## mplib (extra tex)

|                           |          |                        |                     |
|---------------------------|----------|------------------------|---------------------|
| <b>downgradebyte</b>      | function | <b>injectnumber</b>    | function            |
| <b>downsamplebyte</b>     | function | <b>injectnumeric</b>   | function            |
| <b>execute</b>            | function | <b>injectpair</b>      | function            |
| <b>expandtex</b>          | function | <b>injectpath</b>      | function            |
| <b>fillbyte</b>           | function | <b>injectstring</b>    | function            |
| <b>finder</b>             | function | <b>injecttransform</b> | function            |
| <b>finders</b>            | table    | <b>injectvector</b>    | function            |
| F file                    |          | <b>injectvectors</b>   | function            |
| F mpstemplate             |          | <b>injectwhatever</b>  | function            |
| <b>finish</b>             | function | <b>new</b>             | overloaded function |
| <b>getbyte</b>            | function | <b>newbyte</b>         | function            |
| <b>getbyte</b>            | function | <b>peninfo</b>         | function            |
| <b>getcallback</b>        | function | <b>processbyte</b>     | function            |
| <b>getcodes</b>           | function | <b>propertycodes</b>   | table               |
| <b>getcolormodels</b>     | function | <b>realtime</b>        | boolean             |
| <b>getfields</b>          | function | <b>scanboolean</b>     | function            |
| <b>gethashentries</b>     | function | <b>scancmykcolor</b>   | function            |
| <b>gethashentry</b>       | function | <b>scancolor</b>       | function            |
| <b>getinternalactions</b> | function | <b>scanexpression</b>  | function            |
| <b>getknotstates</b>      | function | <b>scaninteger</b>     | function            |
| <b>getlastadddtype</b>    | function | <b>scannext</b>        | function            |
| <b>getlogtargets</b>      | function | <b>scannumber</b>      | function            |
| <b>getobjectdata</b>      | function | <b>scannumeric</b>     | function            |
| <b>getobjectpeninfo</b>   | function | <b>scanpair</b>        | function            |
| <b>getobjectstacking</b>  | function | <b>scanpath</b>        | function            |
| <b>getobjecttypes</b>     | function | <b>scanpen</b>         | function            |
| <b>getresultstatus</b>    | function | <b>scanproperty</b>    | function            |
| <b>getscantypes</b>       | function | <b>scanstring</b>      | function            |
| <b>getstates</b>          | function | <b>scansymbol</b>      | function            |
| <b>getstatistics</b>      | function | <b>scantoken</b>       | function            |
| <b>getstatus</b>          | function | <b>scantransform</b>   | function            |
| <b>gettolerance</b>       | function | <b>setbyte</b>         | function            |
| <b>gettype</b>            | function | <b>setbyte</b>         | function            |
| <b>gettypes</b>           | function | <b>settolerance</b>    | function            |
| <b>injectboolean</b>      | function | <b>showcontext</b>     | function            |
| <b>injectcmykcolor</b>    | function | <b>skiptoken</b>       | function            |
| <b>injectcolor</b>        | function | <b>solvepath</b>       | function            |
| <b>injectinteger</b>      | function | <b>version</b>         | function            |

# nanojpeg (context)

**decode** function

# noads (context)

|                    |          |                      |              |
|--------------------|----------|----------------------|--------------|
| <b>getmathmode</b> | function |                      | F showtree   |
| <b>handlers</b>    | table    |                      | F snap       |
| F alternates       |          |                      | F spacing    |
| F autofences       |          |                      | F suspicious |
| F classes          |          |                      | F tags       |
| F collapse         |          |                      | F unscript   |
| F dictionaries     |          |                      | F unstack    |
| F export           |          |                      | F variants   |
| F families         |          | <b>process</b>       | function     |
| F fencing          |          | <b>processnested</b> | function     |
| F intervals        |          | <b>processors</b>    | table        |
| F kernpairs        |          | T dictionaries       |              |
| F makeup           |          | T intervals          |              |
| F normalize        |          | T suspicious         |              |
| F numbers          |          | T unscript           |              |
| F relocate         |          | T unstack            |              |
| F render           |          | <b>processouter</b>  | function     |

# node (basic tex)

|                             |          |                           |
|-----------------------------|----------|---------------------------|
| <b>checkdiscretionaries</b> | function | F getanchors              |
| <b>checkdiscretionary</b>   | function | F getattribute            |
| <b>copy</b>                 | function | F getattributelist        |
| <b>copylist</b>             | function | F getattributes           |
| <b>count</b>                | function | F getboth                 |
| <b>currentattributes</b>    | function | F getbottom               |
| <b>dimensions</b>           | function | F getbottomdelimiter      |
| <b>direct</b>               | table    | F getbox                  |
| F addmargins                |          | F getcachestate           |
| F addxoffset                |          | F getchar                 |
| F addxymargins              |          | F getchardict             |
| F addyoffset                |          | F getcharspec             |
| F appendaftertail           |          | F getchoice               |
| F appendcurrenttail         |          | F getclass                |
| F beginofmath               |          | F getcontrol              |
| F checkdiscretionaries      |          | F getcornerkerns          |
| F checkdiscretionary        |          | F getcurrenttail          |
| F collapsing                |          | F getdata                 |
| F copy                      |          | F getdegree               |
| F copylist                  |          | F getdelimiter            |
| F copyonly                  |          | F getdenominator          |
| F count                     |          | F getdepth                |
| F currentattributes         |          | F getdirection            |
| F dimensions                |          | F getdisc                 |
| F effectiveglue             |          | F getdiscpart             |
| F endofmath                 |          | F getexcept               |
| F exchange                  |          | F getexpansion            |
| F fields                    |          | F getfam                  |
| F findattribute             |          | F getfield                |
| F findattributerange        |          | F getfielderror           |
| F findnode                  |          | F getfirstdirectioninlist |
| F firstchar                 |          | F getfont                 |
| F firstglyph                |          | F getfontcheck            |
| F firstglyphnode            |          | F getgeometry             |
| F firstitalicglyph          |          | F getglue                 |
| F flattendiscretionaries    |          | F getglyphdata            |
| F flattenleaders            |          | F getglyphdimensions      |
| F flushlist                 |          | F getheight               |
| F flushnode                 |          | F getid                   |
| F free                      |          | F getidsubtype            |
| F freeze                    |          | F getidsubtypenext        |

|                      |                     |
|----------------------|---------------------|
| F getindex           | F gettopdelimiter   |
| F getinputfields     | F gettotal          |
| F getkern            | F getusage          |
| F getkerndimension   | F getusedattributes |
| F getlanguage        | F getweight         |
| F getleader          | F getwhd            |
| F getleftdelimiter   | F getwidth          |
| F getlist            | F getwordrange      |
| F getlistdimensions  | F getxscale         |
| F getmvlolist        | F getxyscales       |
| F getnext            | F getsyscale        |
| F getnodeerrorvalues | F gluetostring      |
| F getnodes           | F hasattribute      |
| F getnormalizedline  | F hasdimensions     |
| F getnucleus         | F hasdiscoption     |
| F getnumerator       | F hasfield          |
| F getoffsets         | F hasgeometry       |
| F getoptions         | F hasglyph          |
| F getorientation     | F hasglyphoption    |
| F getparstate        | F hasidsubtype      |
| F getpenalty         | F hasusage          |
| F getpost            | F hpack             |
| F getpre             | F hyphenating       |
| F getprev            | F id                |
| F getprime           | F ignoremathskip    |
| F getpropertystable  | F insertafter       |
| F getproperty        | F insertbefore      |
| F getreplace         | F insertcurrenthead |
| F getrightdelimiter  | F isboth            |
| F getruledimensions  | F ischar            |
| F getscale           | F ischarcheck       |
| F getscales          | F isdirect          |
| F getscrip           | F isfontcheck       |
| F getscripts         | F isglyph           |
| F getshift           | F isitalicglyph     |
| F getslant           | F isloop            |
| F getspeciallist     | F isnext            |
| F getstate           | F isnextchar        |
| F getsub             | F isnextcharcheck   |
| F getsubpre          | F isnextglyph       |
| F getsubtype         | F isnode            |
| F getsup             | F isprev            |
| F getsuppre          | F isprevchar        |
| F gettop             | F isprevcharcheck   |

F isprevglyph  
F issimilarglyph  
F isspeciallist  
F isvalid  
F iszeroglue  
F kerning  
F lastnode  
F length  
F ligaturing  
F makeextensible  
F migrate  
F mlisttohtml  
F naturalhsize  
F naturalwidth  
F new  
F newcontinuationatom  
F newfontcheck  
F newmathglyph  
F newtextglyph  
F patchattributes  
F patchparshape  
F prependbeforehead  
F prependcurrenttail  
F protectglyph  
F protectglyphs  
F protectglyphsbase  
F protectglyphsnone  
F protrusionskippable  
F rangedimensions  
F remove  
F removefromlist  
F repack  
F reverse  
F samefontcheck  
F serialized  
F setanchors  
F setattribute  
F setattributelist  
F setattributes  
F setattributesinlist  
F setboth  
F setbottom  
F setbottomdelimiter  
F setbox

F setchar  
F setchardict  
F setchoice  
F setclass  
F setcontrol  
F setcurrenttail  
F setdata  
F setdegree  
F setdelimiter  
F setdenominator  
F setdepth  
F setdirection  
F setdisc  
F setdiscpart  
F setexcept  
F setexpansion  
F setfam  
F setfield  
F setfielderror  
F setfont  
F setfontcheck  
F setgeometry  
F setglue  
F setglyphdata  
F setheight  
F setindex  
F setinputfields  
F setkern  
F setlanguage  
F setleader  
F setleftdelimiter  
F setlink  
F setlist  
F setnext  
F setnucleus  
F setnumerator  
F setoffsets  
F setoptions  
F setorientation  
F setpenalty  
F setpost  
F setpre  
F setprev  
F setprime



F setproperty  
 F setreplace  
 F setrightdelimiter  
 F setruledimensions  
 F setscale  
 F setscales  
 F setscript  
 F setscripts  
 F setshift  
 F setslant  
 F setspeciallist  
 F setsplit  
 F setstate  
 F setsub  
 F setsubpre  
 F setsubtype  
 F setup  
 F setsuppre  
 F settop  
 F settopdelimiter  
 F settotal  
 F setweight  
 F setwhd  
 F setwidth  
 F show  
 F size  
 F slide  
 F softenhyphens  
 F startofpar  
 F subtypes  
 F tail  
 F todirect  
 F tonode  
 F toString  
 F tovaliddirect  
 F traverse  
 F traversechar  
 F traversecontent  
 F traverseglyph  
 F traverseid  
 F traverseitalic  
 F traverseleader  
 F traverselist  
 F traversepossible

F type  
 F types  
 F unprotectglyph  
 F unprotectglyphs  
 F unsetattribute  
 F unsetattributes  
 F updatefirstandbotmark  
 F updatefirstmarks  
 F updatemarks  
 F updatetopmarks  
 F usedlist  
 F usesfont  
 F vbalance  
 F verticalbreak  
 F vpack  
 F write  
 F xscaled  
 F yscaled

|                               |          |
|-------------------------------|----------|
| <b>effectiveglue</b>          | function |
| <b>endofmath</b>              | function |
| <b>family_font</b>            | function |
| <b>fields</b>                 | function |
| <b>findattribute</b>          | function |
| <b>flattendiscretionaries</b> | function |
| <b>flushlist</b>              | function |
| <b>flushnode</b>              | function |
| <b>free</b>                   | function |
| <b>getattribute</b>           | function |
| <b>getcachestate</b>          | function |
| <b>getfield</b>               | function |
| <b>getfielderror</b>          | function |
| <b>getglue</b>                | function |
| <b>getnodeerrorvalues</b>     | function |
| <b>getpropertystable</b>      | function |
| <b>getproperty</b>            | function |
| <b>gluetostring</b>           | function |
| <b>hasattribute</b>           | function |
| <b>hasfield</b>               | function |
| <b>hasglyph</b>               | function |
| <b>hpack</b>                  | function |
| <b>hyphenating</b>            | function |
| <b>id</b>                     | function |
| <b>insertafter</b>            | function |
| <b>insertbefore</b>           | function |

|                           |          |                        |          |
|---------------------------|----------|------------------------|----------|
| <b>instock</b>            | function | <b>setglue</b>         | function |
| <b>intracking</b>         | function | <b>setproperty</b>     | function |
| <b>inuse</b>              | function | <b>show</b>            | function |
| <b>isnode</b>             | function | <b>size</b>            | function |
| <b>iszeroglue</b>         | function | <b>slide</b>           | function |
| <b>kerning</b>            | function | <b>subtypes</b>        | function |
| <b>lastnode</b>           | function | <b>tail</b>            | function |
| <b>length</b>             | function | <b>todirect</b>        | function |
| <b>ligaturing</b>         | function | <b>tonode</b>          | function |
| <b>makeextensible</b>     | function | <b>tostring</b>        | function |
| <b>mlisttohlist</b>       | function | <b>traverse</b>        | function |
| <b>new</b>                | function | <b>traverseid</b>      | function |
| <b>protectglyph</b>       | function | <b>type</b>            | function |
| <b>protectglyphs</b>      | function | <b>types</b>           | function |
| <b>protrusionskipable</b> | function | <b>unprotectglyph</b>  | function |
| <b>rangedimensions</b>    | function | <b>unprotectglyphs</b> | function |
| <b>remove</b>             | function | <b>unsetattribute</b>  | function |
| <b>serialized</b>         | function | <b>usedlist</b>        | function |
| <b>setattribute</b>       | function | <b>usesfont</b>        | function |
| <b>setfield</b>           | function | <b>vpack</b>           | function |
| <b>setfielderror</b>      | function | <b>write</b>           | function |

# nodes (context)

|                          |            |                           |            |
|--------------------------|------------|---------------------------|------------|
| <b>accentcodes</b>       | data table | <b>dirvalues</b>          | data table |
| <b>adaptive</b>          | table      | <b>disccodes</b>          | data table |
| F handlehorizontal       |            | <b>discretionarycodes</b> | data table |
| F handlevertical         |            | <b>fencecodes</b>         | data table |
| T methods                |            | <b>fields</b>             | function   |
| F set                    |            | <b>fieldtypes</b>         | table      |
| <b>aligned</b>           | function   | <b>fillcodes</b>          | data table |
| <b>append</b>            | function   | <b>fillvalues</b>         | data table |
| <b>apply</b>             | function   | <b>firstdirinbox</b>      | function   |
| <b>applyvisuals</b>      | function   | <b>flush</b>              | function   |
| <b>astable</b>           | function   | <b>flushlist</b>          | function   |
| <b>basepoints</b>        | function   | <b>flushnode</b>          | function   |
| <b>boundarycodes</b>     | data table | <b>fractioncodes</b>      | data table |
| <b>boxes</b>             | table      | <b>fullhpack</b>          | function   |
| F count                  |            | <b>getattr</b>            | function   |
| F dimensions             |            | <b>getattribute</b>       | function   |
| F direct                 |            | <b>getboth</b>            | function   |
| F dispose                |            | <b>getbox</b>             | function   |
| F found                  |            | <b>getchar</b>            | function   |
| F prune                  |            | <b>getfield</b>           | function   |
| F reset                  |            | <b>getfont</b>            | function   |
| F restore                |            | <b>getid</b>              | function   |
| F save                   |            | <b>getleader</b>          | function   |
| F savenode               |            | <b>getlist</b>            | function   |
| <b>builders</b>          | table      | <b>getnext</b>            | function   |
| <b>choicecodes</b>       | data table | <b>getprev</b>            | function   |
| <b>concat</b>            | function   | <b>getproperty</b>        | function   |
| <b>copy</b>              | function   | <b>getsubtype</b>         | function   |
| <b>copy_node</b>         | function   | <b>gluecodes</b>          | data table |
| <b>copyleft</b>          | function   | <b>glyphcodes</b>         | data table |
| <b>countall</b>          | function   | <b>handlers</b>           | table      |
| <b>currentattributes</b> | function   | F adjusters               |            |
| <b>delete</b>            | function   | F aligncharacter          |            |
| <b>destinations</b>      | table      | F backgrounds             |            |
| N attribute              |            | F backgroundspace         |            |
| T done                   |            | F backgroundsvbox         |            |
| F handler                |            | F characters              |            |
| T stack                  |            | F checkglyphs             |            |
| <b>dircodes</b>          | data table | F checkparcounter         |            |
| <b>directioncodes</b>    | data table | F cleanupbox              |            |
| <b>directionvalues</b>   | data table | F cleanuppage             |            |

|                        |          |                                |            |
|------------------------|----------|--------------------------------|------------|
| F export               |          | <b>insertafter</b>             | function   |
| F finalizebox          |          | <b>insertbefore</b>            | function   |
| F finalizelist         |          | <b>insertlistafter</b>         | function   |
| F flatten              |          | <b>installattributehandler</b> | function   |
| F flattenline          |          | <b>is_display_math</b>         | function   |
| T linebreakchecks      |          | <b>isdirect</b>                | function   |
| F mathalignrelocate    |          | <b>isnode</b>                  | function   |
| F mathmatrixornaments  |          | <b>isnut</b>                   | function   |
| F mathmatrixrules      |          | <b>kerncodes</b>               | data table |
| F migrate              |          | <b>leftmarginwidth</b>         | function   |
| F protectglyphs        |          | <b>linefillers</b>             | table      |
| F recolor              |          | F filler                       |            |
| F show                 |          | F handler                      |            |
| F showhyphenation      |          | F set                          |            |
| F showpreamble         |          | <b>lines</b>                   | table      |
| F stripping            |          | T boxed                        |            |
| F tabulateskip         |          | F addlinenumbers               |            |
| F textbackgrounds      |          | F register                     |            |
| F unprotectglyphs      |          | F setup                        |            |
| F visualizehyphenation |          | D data                         |            |
| F wipe                 |          | F finalize                     |            |
| <b>hasattribute</b>    | function | F number                       |            |
| <b>hasfield</b>        | function | <b>link</b>                    | function   |
| <b>hpack</b>           | function | <b>linked</b>                  | function   |
| <b>idsandsubtypes</b>  | function | <b>list</b>                    | function   |
| <b>idstostring</b>     | function | <b>listcodes</b>               | data table |
| <b>injections</b>      | table    | <b>listtoutf</b>               | function   |
| F copy                 |          | <b>literalvalues</b>           | data table |
| F getligaindex         |          | <b>locate</b>                  | function   |
| F getthreshold         |          | <b>markcodes</b>               | data table |
| F handler              |          | <b>markers</b>                 | table      |
| F installgetspaceboth  |          | F get                          |            |
| F installnewkern       |          | F set                          |            |
| F isspace              |          | <b>mathcodes</b>               | data table |
| F keepcounts           |          | <b>mathvalues</b>              | data table |
| F reset                |          | <b>maxboxwidth</b>             | function   |
| F resetcounts          |          | <b>migrations</b>              | table      |
| F setcursive           |          | F setinserts                   |            |
| F setkern              |          | F setmarks                     |            |
| F setligaindex         |          | <b>new</b>                     | function   |
| F setmark              |          | <b>noadcodes</b>               | data table |
| F setmove              |          | <b>nodecodes</b>               | data table |
| F setposition          |          | <b>nopts</b>                   | function   |
| F setspacekerns        |          | <b>nuts</b>                    | table      |

|                        |                           |
|------------------------|---------------------------|
| F addmargins           | F firstitalicglyph        |
| F addxoffset           | F flattendiscretionaries  |
| F addxymargins         | F flattenleaders          |
| F addyoffset           | F flush                   |
| F append               | F flushlist               |
| F appendaftertail      | F flushnode               |
| F apply                | F free                    |
| F applyvisuals         | F freeze                  |
| F beginofmath          | F fullhpack               |
| F checkdiscretionaries | F getanchors              |
| F checkdiscretionary   | F getattr                 |
| F checkslide           | F getattribute            |
| F collapsing           | F getattributelist        |
| T colors               | F getattributes           |
| F set                  | F getattrlist             |
| T components           | F getattrs                |
| F copynocomponents     | F getboth                 |
| F copyonlyglyphs       | F getbottom               |
| F count                | F getbottomdelimiter      |
| F flush                | F getbox                  |
| F get                  | F getboxglue              |
| F set                  | F getchar                 |
| F concat               | F getchardict             |
| F copy                 | F getcharspec             |
| F copy_properties      | F getchoice               |
| F copyleft             | F getclass                |
| F copynode             | F getcomponents           |
| F copyonly             | F getcornerkerns          |
| F copyvisual           | F getdata                 |
| F count                | F getdegree               |
| F countall             | F getdelimiter            |
| F currentattributes    | F getdenominator          |
| F delete               | F getdepth                |
| F dimensions           | F getdirection            |
| F dirdimensions        | F getdisc                 |
| F effectiveglue        | F getdiscpart             |
| F endofmath            | F getdiscretionary        |
| F exchange             | F getexcept               |
| F findattribute        | F getexpansion            |
| F findattributerange   | F getfam                  |
| F findnode             | F getfield                |
| F firstchar            | F getfirstdirectioninlist |
| F firstglyph           | F getfont                 |
| F firstglyphnode       | F getgeometry             |

|                      |                     |
|----------------------|---------------------|
| F getglue            | F getspeciallist    |
| F getglyphdata       | F getstate          |
| F getglyphdimensions | F getsub            |
| F getheight          | F getsubpre         |
| F getid              | F getsubtype        |
| F getidsubtype       | F getsup            |
| F getidsubtypenext   | F getsuppre         |
| F getindex           | F getsurround       |
| F getinputfields     | F gettop            |
| F getkern            | F gettopdelimiter   |
| F getkerndimension   | F gettotal          |
| F getlang            | F getusedattributes |
| F getlanguage        | F getvalue          |
| F getleader          | F getweight         |
| F getleftdelimiter   | F getwhd            |
| F getlist            | F getwidth          |
| F getlistdimensions  | F getwordrange      |
| F getmiddle          | F getxscale         |
| F getmiddledelimiter | F getxyscales       |
| F getmvllist         | F getsyscale        |
| F getnext            | F gluetostring      |
| F getnormalizedline  | F hasattribute      |
| F getnucleus         | F hasdimensions     |
| F getnumerator       | F hasdiscoption     |
| F getoffsets         | F hasfield          |
| F getoptions         | F hasgeometry       |
| F getorientation     | F hasglyph          |
| F getparstate        | F hasglyphoption    |
| F getpenalty         | F hasidsubtype      |
| F getpost            | F hpack             |
| F getpre             | F hyphenating       |
| F getprev            | F ignoremathskip    |
| F getprime           | F insertafter       |
| F getprop            | F insertbefore      |
| F getreplace         | F insertlistafter   |
| F getrightdelimiter  | F is_display_math   |
| F getruledata        | F isboth            |
| F getruledimensions  | F ischar            |
| F getscale           | F isdirect          |
| F getscales          | F isdone            |
| F getscrip           | F isglyph           |
| F getscripts         | F isitalicglyph     |
| F getshift           | F isnext            |
| F getslant           | F isnextchar        |

|                       |                    |
|-----------------------|--------------------|
| F isnextglyph         | F gluespec         |
| F isnode              | F glyph            |
| F isnut               | F hlist            |
| F isprev              | F imagerule        |
| F isprevchar          | F indentskip       |
| F isprevglyph         | F italiccorrection |
| F issimilarglyph      | F italicern        |
| F iszeroglue          | F kern             |
| F kerning             | F latelua          |
| F lastnode            | F leader           |
| F length              | F lefthangskip     |
| F ligaturing          | F leftmarginkern   |
| F link                | F leftskip         |
| F linked              | F lineskip         |
| F locate              | F literal          |
| F migrate             | F luaboundary      |
| F migratebox          | F mathchar         |
| F mlisttohlist        | F mathtextchar     |
| F naturalsize         | F negatedglue      |
| F naturalwidth        | F noad             |
| F nestedtracedslide   | F originliteral    |
| F new                 | F outlinerule      |
| F newcontinuationatom | F pageliteral      |
| F newmathglyph        | F penalty          |
| F openup              | F radical          |
| F patchattributes     | F rawliteral       |
| F patchparshape       | F register         |
| T pool                | F restore          |
| F accent              | F righthangskip    |
| F baselineskip        | F rightmarginkern  |
| F boundary            | F rightskip        |
| F boxrule             | F rule             |
| F choice              | F save             |
| F cleanup             | F savepos          |
| F delim               | F setmatrix        |
| F delimiter           | F setstate         |
| F direction           | F shrink           |
| F directliteral       | F spacefontkern    |
| F disc                | F spacingrule      |
| F emptyrule           | F startrotation    |
| F fence               | F startscaling     |
| F fontkern            | F stock            |
| F fraction            | F stoprotation     |
| F glue                | F stopscaling      |

|                      |                       |
|----------------------|-----------------------|
| F stretch            | F setattributelist    |
| F strurule           | F setattributes       |
| F subbox             | F setattributesinlist |
| F submlist           | F setattrlist         |
| F temp               | F setattrs            |
| F usage              | F setattrsinlist      |
| F userdefined        | F setboth             |
| T userids            | F setbottom           |
| F usernode           | F setbox              |
| F userrule           | F setboxglue          |
| F virtualrule        | F setchar             |
| F vlist              | F setchardict         |
| F wordboundary       | F setchoice           |
| F prepend            | F setclass            |
| F prependbeforehead  | F setcomponents       |
| F processranges      | F setdata             |
| F processwords       | F setdegree           |
| F protectglyph       | F setdelimiter        |
| F protectglyphs      | F setdenominator      |
| F protectglyphsbase  | F setdepth            |
| F protectglyphsnone  | F setdirection        |
| F protrusionskipable | F setdisc             |
| F rangedimensions    | F setdiscpart         |
| F rawprop            | F setdiscretionary    |
| F reference          | F setexcept           |
| F rehpack            | F setexpansion        |
| F remove             | F setfam              |
| F removefromlist     | F setfield            |
| F repack             | F setfont             |
| F repackhlist        | F setgeometry         |
| F replace            | F setglue             |
| F reverse            | F setglyphdata        |
| T rules              | F setheight           |
| T ruleactions        | F setinputfields      |
| F box                | F setkern             |
| F draw               | F setlang             |
| F fill               | F setlanguage         |
| F mp                 | F setleader           |
| F stroke             | F setleftdelimiter    |
| F userrule           | F setlink             |
| F serialized         | F setlist             |
| F setanchors         | F setmiddledelimiter  |
| F setattr            | F setnext             |
| F setattribute       | F setnucleus          |



|                     |                    |
|---------------------|--------------------|
| F setnumerator      | F striprange       |
| F setoffsets        | F tail             |
| F setoptions        | F takeattr         |
| F setorientation    | F takebox          |
| F setparproperty    | F takelist         |
| F setpenalty        | F theprop          |
| F setpost           | F tonode           |
| F setpre            | F tonodes          |
| F setprev           | F tonut            |
| F setprime          | F tosequence       |
| F setprop           | F toString         |
| F setreplace        | F tracedslide      |
| F setrightdelimiter | F traverse         |
| F setruledata       | F traversechar     |
| F setruledimensions | F traversecontent  |
| F setscale          | F traverseglyph    |
| F setscales         | F traverseid       |
| F setscript         | F traverseitalic   |
| F setscripts        | F traverseleader   |
| F setshift          | F traverselist     |
| F setslant          | F traversepossible |
| F setspeciallist    | T traversers       |
| F setsplit          | F alignrecord      |
| F setstate          | F boundary         |
| F setsub            | F char             |
| F setsubpre         | F content          |
| F setsubtype        | F dir              |
| F setup             | F disc             |
| F setsuppre         | F glue             |
| F setsurround       | F glyph            |
| F settop            | F hlist            |
| F setvalue          | F leader           |
| F setvisual         | F list             |
| F setvisuals        | F mark             |
| F setweight         | F next             |
| F setwhd            | F node             |
| F setwidth          | F penalty          |
| F show              | F possible         |
| F slide             | F rule             |
| F softenhyphens     | F unset            |
| F somepenalty       | F vlist            |
| F somespace         | F whatsit          |
| F splitbox          | T treversers       |
| F startofpar        | F char             |

|                         |            |                         |            |
|-------------------------|------------|-------------------------|------------|
| F content               |            | D values                |            |
| F glyph                 |            | F processor             |            |
| F leader                |            | <b>points</b>           | function   |
| F list                  |            | <b>pool</b>             | table      |
| F node                  |            | F baselineskip          |            |
| F possible              |            | F cleanup               |            |
| T typesetters           |            | F directliteral         |            |
| F tohbox                |            | F glyph                 |            |
| F tohpack               |            | F hlist                 |            |
| F tonodes               |            | F latelua               |            |
| F tovbox                |            | F leader                |            |
| F tovpack               |            | F lineskip              |            |
| F unprotectglyph        |            | F literal               |            |
| F unprotectglyphs       |            | F originliteral         |            |
| F unsetattribute        |            | F register              |            |
| F unsetattributes       |            | F restore               |            |
| F untracedslide         |            | F save                  |            |
| F updatefirstandbotmark |            | F savepos               |            |
| F updatefirstmarks      |            | F setmatrix             |            |
| F updatemarks           |            | F stock                 |            |
| F updatetopmarks        |            | F usage                 |            |
| F usedlist              |            | F usernode              |            |
| F usesfont              |            | F vlist                 |            |
| F verticalbreak         |            | <b>prepend</b>          | function   |
| F vianodes              |            | <b>print</b>            | function   |
| F vianuts               |            | <b>processors</b>       | table      |
| F vpack                 |            | F trace_glyph_run_a     |            |
| F write                 |            | F trace_glyph_run_b     |            |
| F xscaled               |            | <b>properties</b>       | table      |
| F yscaled               |            | T data                  |            |
| <b>packlist</b>         | function   | <b>pts</b>              | function   |
| <b>parcodes</b>         | data table | <b>radicalcodes</b>     | data table |
| <b>penaltycodes</b>     | data table | <b>references</b>       | table      |
| <b>plugindata</b>       | table      | N attribute             |            |
| F finalizer             |            | T done                  |            |
| F initializer           |            | F handler               |            |
| S name                  |            | T stack                 |            |
| T namespace             |            | <b>reheapack</b>        | function   |
| N attribute             |            | <b>remove</b>           | function   |
| D data                  |            | <b>repackhlist</b>      | function   |
| F enable                |            | <b>replace</b>          | function   |
| F handler               |            | <b>report</b>           | function   |
| F register              |            | <b>rightmarginwidth</b> | function   |
| D registered            |            | <b>rulecodes</b>        | data table |

|                             |            |                       |            |
|-----------------------------|------------|-----------------------|------------|
| <b>rules</b>                | table      | T glyphs              |            |
| F handler                   |            | F set                 |            |
| F process                   |            | <b>subtypes</b>       | data table |
| F set                       |            | <b>tail</b>           | function   |
| F userrule                  |            | <b>takeattr</b>       | function   |
| <b>serialize</b>            | function   | <b>takebox</b>        | function   |
| <b>serializebox</b>         | function   | <b>tasks</b>          | table      |
| <b>serialized</b>           | function   | F actions             |            |
| <b>setattr</b>              | function   | F appendaction        |            |
| <b>setattribute</b>         | function   | F disableaction       |            |
| <b>setattrlist</b>          | function   | F disablegroup        |            |
| <b>setboth</b>              | function   | F enableaction        |            |
| <b>setbox</b>               | function   | F enablegroup         |            |
| <b>setboxtonaturalwd</b>    | function   | F freeze              |            |
| <b>setchar</b>              | function   | F freezegroup         |            |
| <b>setfield</b>             | function   | F new                 |            |
| <b>setfont</b>              | function   | F prependaction       |            |
| <b>setleader</b>            | function   | F removeaction        |            |
| <b>setlink</b>              | function   | F replaceaction       |            |
| <b>setlist</b>              | function   | F restart             |            |
| <b>setnext</b>              | function   | F setaction           |            |
| <b>setprev</b>              | function   | F showactions         |            |
| <b>setproperty</b>          | function   | F table               |            |
| <b>shadows</b>              | table      | <b>tobasepoints</b>   | function   |
| F handler                   |            | <b>tocentimeters</b>  | function   |
| F set                       |            | <b>tociceros</b>      | function   |
| <b>shifts</b>               | table      | <b>todidots</b>       | function   |
| F handler                   |            | <b>todimen</b>        | function   |
| F set                       |            | <b>toinches</b>       | function   |
| <b>showboxes</b>            | function   | <b>tomillimeters</b>  | function   |
| <b>showlist</b>             | function   | <b>tonode</b>         | function   |
| <b>showsimplelist</b>       | function   | <b>tonodes</b>        | function   |
| <b>skipcodes</b>            | data table | <b>tonut</b>          | function   |
| <b>snapshots</b>            | table      | <b>topics</b>         | function   |
| F getsamples                |            | <b>topoints</b>       | function   |
| F resetsamples              |            | <b>toscaledpoints</b> | function   |
| F takesample                |            | <b>tosequence</b>     | function   |
| <b>somepenalty</b>          | function   | <b>tostring</b>       | function   |
| <b>somespace</b>            | function   | <b>totable</b>        | function   |
| <b>specialskipcodes</b>     | table      | <b>totree</b>         | function   |
| <b>splitbox</b>             | function   | <b>toutf</b>          | function   |
| <b>startofpar</b>           | function   | <b>tracers</b>        | table      |
| <b>stripdiscretionaries</b> | function   | T colors              |            |
| <b>stripping</b>            | table      | F reset               |            |

|                    |          |                           |          |
|--------------------|----------|---------------------------|----------|
| F set              |          | F vpack                   |          |
| F setlist          |          | <b>unsetattribute</b>     | function |
| F directions       |          | <b>upcomingproperties</b> | function |
| F fontchar         |          | <b>usedlist</b>           | function |
| T frequencies      |          | <b>vianodes</b>           | function |
| F register         |          | <b>vianuts</b>            | function |
| T pool             |          | <b>visualizebox</b>       | function |
| T nodes            |          | <b>visualizers</b>        | table    |
| F rule             |          | F attribute               |          |
| T nuts             |          | T attributes              |          |
| F rule             |          | F box                     |          |
| F resetproperties  |          | F definelayer             |          |
| F rule             |          | F enable                  |          |
| F setlist          |          | T filters                 |          |
| F setproperties    |          | N continuation            |          |
| F start            |          | N hglue                   |          |
| T steppers         |          | N hkern                   |          |
| F check            |          | N hpenalty                |          |
| F codes            |          | N toddler                 |          |
| F features         |          | N vglue                   |          |
| F font             |          | N vkern                   |          |
| F glyphs           |          | N vpenalty                |          |
| F message          |          | F getusedfont             |          |
| F messages         |          | F handler                 |          |
| F nofsteps         |          | F markfonts               |          |
| F register         |          | T modes                   |          |
| F reset            |          | N boundary                |          |
| F start            |          | N depth                   |          |
| F stop             |          | N dir                     |          |
| F stop             |          | N discretionary           |          |
| T transparencies   |          | N expansion               |          |
| F reset            |          | N fontkern                |          |
| F set              |          | N glue                    |          |
| F setlist          |          | N glyph                   |          |
| <b>traverse</b>    | function | N hbox                    |          |
| <b>traverseid</b>  | function | N hglue                   |          |
| <b>typesetters</b> | table    | N hkern                   |          |
| F hbox             |          | N hpenalty                |          |
| F hpack            |          | N insert                  |          |
| F tohbox           |          | N italic                  |          |
| F tohpack          |          | N kern                    |          |
| F tonodes          |          | N line                    |          |
| F tovbox           |          | N marginkern              |          |
| F tovpack          |          | N mark                    |          |

N math  
N mathglue  
N mathkern  
N origin  
N par  
N penalty  
N simple  
N simplehbox  
N simplevbox  
N simplevtop  
N space  
N strut  
N toddler  
N user  
N vbox

N vglue  
N vkern  
N vpenalty  
N vtop  
N whatsit  
F register  
F registercache  
F setfont  
F setlayer  
F setruledglyph  
F setvisual

**vpack**  
**whatsitcodes**  
**write**

function  
data table  
function

## number (context)

|                       |            |                       |          |
|-----------------------|------------|-----------------------|----------|
|                       | function   | <b>tol6dot16</b>      | 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>toxiceros</b>      | function |
| <b>dimenfactors</b>   | data table | <b>tocontext</b>      | function |
| <b>formatted</b>      | function   | <b>to didots</b>      | function |
| <b>formattedfloat</b> | function   | <b>todimen</b>        | function |
| <b>fractiontobyte</b> | function   | <b>toediths</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>nubasepoints</b>   | function   | <b>tonumberf</b>      | function |
| <b>nupoints</b>       | function   | <b>tonumberg</b>      | function |
| <b>percent</b>        | function   | <b>topicas</b>        | function |
| <b>points</b>         | function   | <b>topoints</b>       | function |
| <b>pts</b>            | function   | <b>toscaled</b>       | function |
| <b>signed</b>         | function   | <b>toscaledpoints</b> | function |
| <b>sparseexponent</b> | function   | <b>totoves</b>        | function |
| <b>splitdimen</b>     | function   | <b>valid</b>          | function |

## objects (context)

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

# optional (context)

## **curl** table

F escape  
F fetch  
F getversion  
F initialize  
F unescape

## **foreign** table

F abivalues  
F getbuffer  
F initialize  
F load  
F newbuffer  
F totable  
F types

## **ghostscript** table

F execute  
F initialize

## **graphicsmagick** table

F execute  
F getnoisetypes  
F initialize

## **hb** table

F getshapers  
F getversion  
F initialize  
F loadfont  
F shapestring

## **imagemagick** 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

## **library** table

F load

## **loaded** table

## **lz4** table

F compress  
F decompresssize  
F framecompress  
F framedecompress  
F initialize

## **lzma** table

F compress  
F decompress  
F initialize

## **lzo** table

F compress  
F decompresssize  
F initialize

## **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

## **openssl** table

F getversion  
F initialize  
F sign  
F verify

## **postgres** table

F close



|               |       |              |       |
|---------------|-------|--------------|-------|
| F execute     |       | F open       |       |
| F getmessage  |       | <b>zint</b>  | table |
| F initialize  |       | F execute    |       |
| F open        |       | F initialize |       |
| <b>sqlite</b> | table | <b>zstd</b>  | table |
| F close       |       | F compress   |       |
| F execute     |       | F decompress |       |
| F getmessage  |       | F initialize |       |
| F initialize  |       |              |       |

## os (basic lua)

|                       |                     |                      |                     |
|-----------------------|---------------------|----------------------|---------------------|
| <b>__getenv__</b>     | function            | <b>platform</b>      | string              |
| <b>__setenv__</b>     | function            | <b>remove</b>        | overloaded function |
| <b>binsuffix</b>      | string              | <b>rename</b>        | overloaded function |
| <b>binsuffixes</b>    | table               | <b>resultof</b>      | function            |
| <b>bits</b>           | number              | <b>runtime</b>       | function            |
| <b>clock</b>          | function            | <b>selfarg</b>       | table               |
| <b>converttime</b>    | function            | <b>selfbin</b>       | string              |
| <b>date</b>           | overloaded function | <b>selfcore</b>      | string              |
| <b>difftime</b>       | function            | <b>selfdir</b>       | string              |
| <b>enableansi</b>     | function            | <b>selflink</b>      | string              |
| <b>env</b>            | data table          | <b>selfname</b>      | string              |
| <b>execute</b>        | overloaded function | <b>selfpath</b>      | string              |
| <b>exit</b>           | overloaded function | <b>serialwrite</b>   | function            |
| <b>fulltime</b>       | function            | <b>setenv</b>        | overloaded function |
| <b>getcodepage</b>    | function            | <b>setexitcode</b>   | function            |
| <b>getenv</b>         | overloaded function | <b>setlocale</b>     | overloaded function |
| <b>getnamevalues</b>  | function            | <b>sleep</b>         | function            |
| <b>gettimeofday</b>   | function            | <b>startuptime</b>   | function            |
| <b>gettypevalues</b>  | function            | <b>time</b>          | function            |
| <b>getunamefields</b> | function            | <b>timezone</b>      | function            |
| <b>isleapyear</b>     | function            | <b>tmpname</b>       | function            |
| <b>launch</b>         | function            | <b>today</b>         | function            |
| <b>libsuffix</b>      | string              | <b>type</b>          | string              |
| <b>localtime</b>      | function            | <b>uname</b>         | function            |
| <b>name</b>           | string              | <b>uuid</b>          | function            |
| <b>newline</b>        | string              | <b>validdatetime</b> | function            |
| <b>nofdays</b>        | function            | <b>weekday</b>       | function            |
| <b>now</b>            | function            | <b>where</b>         | function            |
| <b>pipeto</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 addmvl  
F block  
F blockrows  
F check  
F clean  
T data  
F define  
F definesub  
F delayedsheet  
F finishflush  
F flushareas  
F flushcolumn  
F goto  
F gotoslot  
F limit  
F noto  
F prepareflush  
F presetsheets  
F presetspreadsheets  
F put  
F putdirect  
F registerarea  
F registersheet  
F registerspreadsheets  
F reset  
F resetdirect

F reshape  
F setarea  
F setextra  
F sethsize  
F sethspan  
F setlines  
F setmvl  
F setpresent  
F setproperties  
F setstart  
F shape  
F showshape  
F state  
F status  
F submvl  
F submvlbalance

## **injections**      table

F flushafter  
F flushbefore  
F save

## **mixedcolumns**      table

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

pdf (context)

**immediateobj** function

## pdf (extra tex)

|                          |          |
|--------------------------|----------|
| <b>arraytotable</b>      | function |
| <b>close</b>             | function |
| <b>closestream</b>       | function |
| <b>dictionarytotable</b> | function |
| <b>getarray</b>          | function |
| <b>getboolean</b>        | function |
| <b>getbox</b>            | function |
| <b>getcatalag</b>        | function |
| <b>getdictionary</b>     | function |
| <b>getencodingvalues</b> | function |
| <b>getfieldtypes</b>     | function |
| <b>getfromarray</b>      | function |
| <b>getfromdictionary</b> | function |
| <b>getfromobject</b>     | function |
| <b>getfromreference</b>  | function |
| <b>getfromstream</b>     | function |
| <b>getinfo</b>           | function |
| <b>getinteger</b>        | function |
| <b>getmemoryusage</b>    | function |
| <b>getname</b>           | function |
| <b>getnofobjects</b>     | function |
| <b>getnofpages</b>       | function |

|                        |          |
|------------------------|----------|
| <b>getnumber</b>       | function |
| <b>getobjectrange</b>  | function |
| <b>getpage</b>         | function |
| <b>getpages</b>        | function |
| <b>getpermissions</b>  | function |
| <b>getsize</b>         | function |
| <b>getstatus</b>       | function |
| <b>getstatusvalues</b> | function |
| <b>getstream</b>       | function |
| <b>getstring</b>       | function |
| <b>gettrailer</b>      | function |
| <b>getversion</b>      | function |
| <b>new</b>             | function |
| <b>open</b>            | function |
| <b>openfile</b>        | function |
| <b>openstream</b>      | function |
| <b>pagestotable</b>    | function |
| <b>readfromstream</b>  | function |
| <b>readwholestream</b> | function |
| <b>type</b>            | function |
| <b>unencrypt</b>       | function |

# physics (context)

**units** table

F registershortcut

F registerunit

D tables

## pngdecode (extra tex)

**applyfilter**    function

**expand**        function

**interlace**     function

**makemask**      function

**reduce**        function

**splitmask**     function

**tocmyk**        function

**tomask**        function



## posit (extra lua)

|                   |          |                  |          |
|-------------------|----------|------------------|----------|
| <b>NaN</b>        | function | <b>exp2</b>      | function |
| <b>NaR</b>        | function | <b>expand</b>    | function |
| <b>__add</b>      | function | <b>floor</b>     | function |
| <b>__band</b>     | function | <b>frombyte</b>  | function |
| <b>__bor</b>      | function | <b>fromchar</b>  | function |
| <b>__bxor</b>     | function | <b>fromposit</b> | function |
| <b>__div</b>      | function | <b>integer</b>   | function |
| <b>__eq</b>       | function | <b>log</b>       | function |
| <b>__le</b>       | function | <b>log10</b>     | function |
| <b>__lt</b>       | function | <b>log1p</b>     | function |
| <b>__mul</b>      | function | <b>log2</b>      | function |
| <b>__name</b>     | string   | <b>logb</b>      | function |
| <b>__pow</b>      | function | <b>max</b>       | function |
| <b>__shl</b>      | function | <b>min</b>       | function |
| <b>__shr</b>      | function | <b>modf</b>      | function |
| <b>__sub</b>      | function | <b>new</b>       | function |
| <b>__tostring</b> | function | <b>pow</b>       | function |
| <b>__unm</b>      | function | <b>rotate</b>    | function |
| <b>abs</b>        | function | <b>round</b>     | function |
| <b>acos</b>       | function | <b>rounded</b>   | function |
| <b>asin</b>       | function | <b>shift</b>     | function |
| <b>atan</b>       | function | <b>sin</b>       | function |
| <b>band</b>       | function | <b>sqrt</b>      | function |
| <b>bor</b>        | function | <b>tan</b>       | function |
| <b>bxor</b>       | function | <b>tobyte</b>    | function |
| <b>ceil</b>       | function | <b>tochar</b>    | function |
| <b>conj</b>       | function | <b>tonumber</b>  | function |
| <b>copy</b>       | function | <b>toposit</b>   | function |
| <b>cos</b>        | function | <b>tostring</b>  | function |
| <b>exp</b>        | function |                  |          |

## potrace (extra tex)

|                    |          |                         |          |
|--------------------|----------|-------------------------|----------|
| <b>checked</b>     | function | <b>getnewfields</b>     | function |
| <b>concat</b>      | function | <b>getpolicyvalues</b>  | function |
| <b>contourplot</b> | function | <b>getprocessfields</b> | function |
| <b>convert</b>     | function | <b>new</b>              | function |
| <b>count</b>       | function | <b>process</b>          | function |
| <b>flush</b>       | function | <b>setbitmap</b>        | function |
| <b>free</b>        | function | <b>stripped</b>         | function |
| <b>fromfile</b>    | function | <b>totable</b>          | function |
| <b>getbitmap</b>   | function | <b>trace</b>            | function |

# publications (context)

|                         |            |                             |          |
|-------------------------|------------|-----------------------------|----------|
| <b>addtexentry</b>      | function   | <b>concatstate</b>          | function |
| <b>analyze</b>          | function   | <b>converttoxml</b>         | function |
| <b>anywhere</b>         | function   | <b>currentspecification</b> | table    |
| <b>authorcache</b>      | data table | S author                    |          |
| <b>authorcollapsers</b> | data table | T categories                |          |
| <b>authorhashers</b>    | table      | T article                   |          |
| F invertedshort         |            | S category                  |          |
| F normal                |            | T extra                     |          |
| F normalinverted        |            | T fields                    |          |
| F normalshort           |            | S author                    |          |
| F sequential            |            | S editor                    |          |
| F sequentialshort       |            | S journal                   |          |
| F short                 |            | S keywords                  |          |
| <b>authormap</b>        | data table | S note                      |          |
| <b>authortoregister</b> | function   | S number                    |          |
| <b>btx</b>              | table      | 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                  |          |

|                |                        |            |
|----------------|------------------------|------------|
| T required     | S page                 |            |
| 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         | T attr                 |            |
| T author       | B dirty                |            |
| T virtual      | T gskip                |            |
| T demo-b       | T kind                 |            |
| S category     | T list                 |            |
| T extra        | T system               |            |
| T fields       | T order                |            |
| S author       | N steps                |            |
| S institution  | <b>enhancers</b>       | table      |
| S organization | F details              |            |
| S subtitle     | F order                |            |
| S title        | F suffixes             |            |
| S year         | <b>finder</b>          | function   |
| T optional     | <b>firstofrange</b>    | function   |
| T required     | <b>found</b>           | function   |
| T sets         | <b>get</b>             | function   |
| T authors      | <b>getcasted</b>       | function   |
| T virtual      | <b>getdetail</b>       | function   |
| S comment      | <b>getdirect</b>       | function   |
| S copyright    | <b>getfaster</b>       | function   |
| T fields       | <b>getfield</b>        | function   |
| S name         | <b>getfuzzy</b>        | function   |
| T types        | <b>getindex</b>        | function   |
| S author       | <b>inspectors</b>      | data table |
| S editor       | <b>journals</b>        | table      |
| S keywords     | F abbreviated          |            |
| S number       | F add                  |            |

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

|                       |          |                           |          |
|-----------------------|----------|---------------------------|----------|
| <b>splitauthor</b>    | function | F showdatasetcompleteness |          |
| <b>splitoneauthor</b> | function | F showdatasetfields       |          |
| <b>statistics</b>     | table    | F showentry               |          |
| N nofbytes            |          | F showfields              |          |
| N nofdatasets         |          | F showhashedauthors       |          |
| N nofdefinitions      |          | F showtables              |          |
| N nofshortcuts        |          | F showvariants            |          |
| <b>tables</b>         | table    | <b>typesetters</b>        | table    |
| D implicits           |          | F author                  |          |
| D origins             |          | F string                  |          |
| D privates            |          | <b>usedataset</b>         | function |
| D sets                |          | <b>usedentries</b>        | function |
| D specials            |          | <b>writers</b>            | table    |
| D types               |          | F author                  |          |
| D virtuals            |          | F keyword                 |          |
| <b>tags</b>           | function | F pagenumber              |          |
| <b>tracers</b>        | table    | F range                   |          |
| F showdatasetauthors  |          |                           |          |

## qrcodegen (context)

**bitmap**    function  
**generate**   function

## 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>findfiles</b>               | function   |
| <b>appendhash</b>                   | function   | <b>findgivenfile</b>           | function   |
| <b>automount</b>                    | function   | <b>findgivenfiles</b>          | function   |
| <b>booleanvariable</b>              | function   | <b>findlib</b>                 | function   |
| <b>cacheversion</b>                 | string     | <b>findpath</b>                | function   |
| <b>checkedvariable</b>              | function   | <b>findpk</b>                  | function   |
| <b>cleanedpathlist</b>              | function   | <b>findtexfile</b>             | function   |
| <b>cleaners</b>                     | data table | <b>findwildcardfile</b>        | function   |
| <b>cleanpath</b>                    | function   | <b>findwildcardfiles</b>       | function   |
| <b>cleanpathlist</b>                | function   | <b>formatofsuffix</b>          | function   |
| <b>cleanupbinfile</b>               | function   | <b>formatofvariable</b>        | function   |
| <b>concatinators</b>                | data table | <b>formats</b>                 | data table |
| <b>configbanner</b>                 | string     | <b>foundintree</b>             | function   |
| <b>configurationfiles</b>           | function   | <b>foundintrees</b>            | function   |
| <b>dangerous</b>                    | data table | <b>generators</b>              | data table |
| <b>datastate</b>                    | function   | <b>get_from_content</b>        | function   |
| <b>decompressors</b>                | table      | <b>getenv</b>                  | function   |
| F register                          |            | <b>getextrapaths</b>           | function   |
| F unregister                        |            | <b>getfilehashes</b>           | function   |
| <b>defaultsuffixes</b>              | table      | <b>gethashes</b>               | function   |
| <b>dirstatus</b>                    | function   | <b>getownpath</b>              | function   |
| <b>dowithfilesandreport</b>         | function   | <b>getreadfilename</b>         | function   |
| <b>dowithfilesintree</b>            | function   | <b>hashers</b>                 | data table |
| <b>dowithpath</b>                   | function   | <b>homedir</b>                 | string     |
| <b>dowithvariable</b>               | function   | <b>ignorelibrary</b>           | function   |
| <b>executers</b>                    | table      | <b>initialized</b>             | function   |
| <b>expandbraces</b>                 | function   | <b>installinputfilehandler</b> | function   |
| <b>expandedpathfromlist</b>         | function   | <b>installinputlinehandler</b> | function   |
| <b>expandedpathlist</b>             | function   | <b>jobpath</b>                 | function   |
| <b>expandedpathlistfromvariable</b> | function   | <b>jobs</b>                    | table      |
| <b>expandpath</b>                   | function   | F collectstructure             |            |
| <b>expandpathfromvariable</b>       | function   | F currentcomponent             |            |
| <b>expansion</b>                    | function   | F currentenvironment           |            |
| <b>extendtexmfvariable</b>          | function   | F currentproduct               |            |
| <b>filtered_from_content</b>        | function   | F currentproject               |            |
| <b>find_file</b>                    | function   | F currentstructure             |            |
| <b>find_files</b>                   | function   | F justacomponent               |            |
| <b>findbinfile</b>                  | function   | F namelist                     |            |
| <b>findctxfile</b>                  | function   | D processors                   |            |
| <b>finders</b>                      | data table | F productcomponent             |            |
| <b>findfile</b>                     | function   | F usefile                      |            |

|                          |            |                               |            |
|--------------------------|------------|-------------------------------|------------|
| <b>joinpath</b>          | function   | <b>registerfile</b>           | function   |
| <b>knownvariables</b>    | function   | <b>registerfilehash</b>       | function   |
| <b>libraries</b>         | table      | <b>registerintrees</b>        | function   |
| F optionalloaded         |            | <b>registermethod</b>         | function   |
| F validoptional          |            | <b>registerzipfile</b>        | function   |
| <b>load</b>              | function   | <b>relations</b>              | data table |
| <b>loadbinfile</b>       | function   | <b>renew</b>                  | function   |
| <b>loaders</b>           | data table | <b>renewcache</b>             | function   |
| <b>loadlualib</b>        | function   | <b>repath</b>                 | function   |
| <b>loadtexfile</b>       | function   | <b>reset</b>                  | function   |
| <b>loadtime</b>          | function   | <b>resetextrapaths</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 cleannname                  |            |
| 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>showpath</b>               | function   |
| <b>methodhandler</b>     | function   | <b>simplescanfiles</b>        | function   |
| <b>missinglibrary</b>    | function   | <b>splitconfigurationpath</b> | function   |
| <b>openbinfile</b>       | function   | <b>splitexpansions</b>        | function   |
| <b>openers</b>           | data table | <b>splitmethod</b>            | function   |
| <b>openfile</b>          | function   | <b>splitpath</b>              | function   |
| <b>opentexfile</b>       | function   | <b>stackpath</b>              | function   |
| <b>ownpath</b>           | string     | <b>starttiming</b>            | function   |
| <b>popextrapath</b>      | function   | <b>stoptiming</b>             | function   |
| <b>popinputname</b>      | function   | <b>suffixes</b>               | data table |
| <b>poppath</b>           | function   | <b>suffixmap</b>              | data table |
| <b>prefixes</b>          | data table | <b>suffixofformat</b>         | function   |
| <b>prependhash</b>       | function   | <b>texdatablob</b>            | function   |
| <b>pushextrapath</b>     | function   | <b>toppath</b>                | function   |
| <b>pushinputname</b>     | function   | <b>tracers</b>                | data table |
| <b>pushpath</b>          | function   | <b>unexpandedpath</b>         | function   |
| <b>registerextrapath</b> | function   | <b>unexpandedpathlist</b>     | function   |

|                        |            |                                 |          |
|------------------------|------------|---------------------------------|----------|
| <b>unresolve</b>       | function   | <b>validatedpath</b>            | function |
| <b>updaterelations</b> | function   | <b>variable</b>                 | function |
| <b>updatescript</b>    | function   | <b>variableofformat</b>         | function |
| <b>uselibrary</b>      | function   | <b>variableofformatorsuffix</b> | function |
| <b>usertypes</b>       | data table | <b>wildcardpattern</b>          | function |
| <b>usezipfile</b>      | function   |                                 |          |

## sandbox (context)

|                         |          |
|-------------------------|----------|
| <b>blockrequire</b>     | function |
| <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

**helpers** data 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

## serial (context)

|                   |          |
|-------------------|----------|
| <b>__gc</b>       | function |
| <b>__name</b>     | string   |
| <b>__tostring</b> | function |
| <b>close</b>      | function |

|                 |          |
|-----------------|----------|
| <b>open</b>     | function |
| <b>send</b>     | function |
| <b>tostring</b> | function |
| <b>write</b>    | function |

## set (context)

**contains**    function

**create**     function

**tolist**     function

**tonumber**   function

**totable**    function

## sha2 (extra lua)

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

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



## sio (extra lua)

|                          |          |
|--------------------------|----------|
| <b>read2dot14</b>        | function |
| <b>readbytes</b>         | function |
| <b>readbytetable</b>     | function |
| <b>readcardinal1</b>     | function |
| <b>readcardinal1le</b>   | function |
| <b>readcardinal2</b>     | function |
| <b>readcardinal2le</b>   | function |
| <b>readcardinal3</b>     | function |
| <b>readcardinal3le</b>   | function |
| <b>readcardinal4</b>     | function |
| <b>readcardinal4le</b>   | function |
| <b>readcardinaltable</b> | function |
| <b>readcline</b>         | function |
| <b>readcstring</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>tocardinal1</b>      | function |
| <b>tocardinal1le</b>    | function |
| <b>tocardinal2</b>      | function |
| <b>tocardinal2le</b>    | function |
| <b>tocardinal3</b>      | function |
| <b>tocardinal3le</b>    | function |
| <b>tocardinal4</b>      | function |
| <b>tocardinal4le</b>    | function |

# socket (extra lua)

|                       |          |                             |
|-----------------------|----------|-----------------------------|
| <b>BLOCKSIZE</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 content-md5         |          | 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  
**url**                         table  
     F absolute  
     F build  
     F build\_path  
     F escape  
     F parse  
     F parse\_path  
     F unescape

# sorters (context)

**basicsorter** function

**comparers** table

F basic

**constants** 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

**definitions** data table

**firstofsplit** function

**packch** function

**packuc** function

**replacementlist** function

**setlanguage** function

**sort** function

**splitters** table

F utf

**strip** function

**tracers** data table

**update** function

## sparse (extra lua)

|               |          |
|---------------|----------|
| <b>concat</b> | function |
| <b>get</b>    | function |
| <b>max</b>    | function |
| <b>min</b>    | function |
| <b>new</b>    | function |

|                 |          |
|-----------------|----------|
| <b>range</b>    | function |
| <b>restore</b>  | function |
| <b>set</b>      | function |
| <b>traverse</b> | function |
| <b>wipe</b>     | function |

# statistics (context)

|                       |          |                      |          |
|-----------------------|----------|----------------------|----------|
| <b>benchmarktimer</b> | function | <b>hastiming</b>     | function |
| <b>checkfmtstatus</b> | function | <b>memused</b>       | function |
| <b>currenttime</b>    | function | <b>register</b>      | function |
| <b>elapsed</b>        | function | <b>resettiming</b>   | function |
| <b>elapsedindeed</b>  | function | <b>runtime</b>       | function |
| <b>elapsedseconds</b> | function | <b>savefmtstatus</b> | function |
| <b>elapseddtime</b>   | function | <b>show</b>          | function |
| <b>enable</b>         | boolean  | <b>showmemory</b>    | function |
| <b>feedback</b>       | table    | <b>showusage</b>     | function |
| F info                |          | <b>starttiming</b>   | function |
| F processstates       |          | <b>stoptiming</b>    | function |
| F register            |          | <b>threshold</b>     | number   |
| F reportstates        |          | <b>timed</b>         | function |
| F setstate            |          | <b>tracefunction</b> | function |
| <b>formatruntime</b>  | function |                      |          |

## status (basic tex)

|                              |          |                          |          |
|------------------------------|----------|--------------------------|----------|
| <b>getbalancestate</b>       | function | <b>getluastate</b>       | function |
| <b>getbufferstate</b>        | function | <b>getmarkstate</b>      | function |
| <b>getcallbackstate</b>      | function | <b>getmvlstate</b>       | function |
| <b>getconstants</b>          | function | <b>getneststate</b>      | function |
| <b>geterrorlinestate</b>     | function | <b>getnodestate</b>      | function |
| <b>geterrorstate</b>         | function | <b>getparameterstate</b> | function |
| <b>getexpandstate</b>        | function | <b>getpoolstate</b>      | function |
| <b>getfilestate</b>          | function | <b>getreadstate</b>      | function |
| <b>getfontstate</b>          | function | <b>getsavestate</b>      | function |
| <b>gethalferrorlinestate</b> | function | <b>getsparsestate</b>    | function |
| <b>gethashstate</b>          | function | <b>getstringstate</b>    | function |
| <b>gethyphenationstate</b>   | function | <b>gettexstate</b>       | function |
| <b>getinputstate</b>         | function | <b>gettokenstate</b>     | function |
| <b>getinsertstate</b>        | function | <b>getwarningstate</b>   | function |
| <b>getlanguagestate</b>      | function | <b>iocodes</b>           | table    |
| <b>getlinebreakstate</b>     | function | <b>list</b>              | function |
| <b>getlookupstate</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>is_boolean</b>      | function |
| <b>autosingle</b>      | function | <b>is_empty</b>        | function |
| <b>booleanstring</b>   | function | <b>itself</b>          | function |
| <b>byte</b>            | function | <b>len</b>             | function |
| <b>bytepairs</b>       | function | <b>limit</b>           | function |
| <b>bytes</b>           | function | <b>linetable</b>       | function |
| <b>bytetable</b>       | function | <b>longtostring</b>    | function |
| <b>char</b>            | function | <b>lower</b>           | function |
| <b>characterpairs</b>  | function | <b>match</b>           | function |
| <b>characters</b>      | function | <b>nospaces</b>        | function |
| <b>checkedsplit</b>    | function | <b>nspace</b>          | table    |
| <b>chrtointeger</b>    | function | <b>octtointeger</b>    | function |
| <b>collapsespaces</b>  | function | <b>optionalquoted</b>  | function |
| <b>containsws</b>      | function | <b>pack</b>            | function |
| <b>count</b>           | function | <b>packrowscolumns</b> | function |
| <b>dectointeger</b>    | function | <b>packsize</b>        | function |
| <b>dump</b>            | function | <b>quote</b>           | function |
| <b>escapedpattern</b>  | function | <b>quoted</b>          | function |
| <b>escapedquotes</b>   | function | <b>rep</b>             | function |
| <b>explode</b>         | function | <b>replacenewlines</b> | function |
| <b>f6</b>              | function | <b>reverse</b>         | function |
| <b>find</b>            | function | <b>split</b>           | function |
| <b>format</b>          | function | <b>splitlines</b>      | function |
| <b>formatter</b>       | function | <b>splitup</b>         | function |
| <b>formatters</b>      | function | <b>strip</b>           | function |
| <b>fullstrip</b>       | function | <b>sub</b>             | function |
| <b>gmatch</b>          | function | <b>texhashed</b>       | function |
| <b>gsub</b>            | function | <b>texnewlines</b>     | function |
| <b>hashes</b>          | table    | <b>tformat</b>         | function |
| T X02                  |          | <b>toHEX</b>           | function |
| S                      |          | <b>toboollean</b>      | function |
| S                      |          | <b>tobytes</b>         | function |
| S                      |          | <b>tocontext</b>       | function |
| S                      |          | <b>todec</b>           | function |
| S                      |          | <b>todimen</b>         | function |
| S (                    |          | <b>tohex</b>           | function |
| S )                    |          | <b>tonodes</b>         | function |
| S \                    |          | <b>topattern</b>       | function |
| T X04                  |          | <b>totable</b>         | function |
| <b>hextocharacters</b> | function | <b>tounicode16</b>     | function |
| <b>hextointeger</b>    | function | <b>toutf</b>           | function |

|                        |          |
|------------------------|----------|
| <b>toutf32</b>         | function |
| <b>toutf8</b>          | function |
| <b>tracedchar</b>      | function |
| <b>tracedchars</b>     | table    |
| <b>unescapedquotes</b> | function |
| <b>unpack</b>          | function |
| <b>unquote</b>         | function |
| <b>unquoted</b>        | function |
| <b>upper</b>           | function |
| <b>utf16toutf8</b>     | function |
| <b>utfcharacter</b>    | function |

|                           |          |
|---------------------------|----------|
| <b>utfcharacters</b>      | function |
| <b>utfcharacterstable</b> | function |
| <b>utflength</b>          | function |
| <b>utfpadd</b>            | function |
| <b>utfpadding</b>         | function |
| <b>utftabletostring</b>   | function |
| <b>utfvalue</b>           | function |
| <b>utfvalues</b>          | function |
| <b>utfvaluetable</b>      | function |
| <b>valid</b>              | function |
| <b>wordsplitter</b>       | function |

# structures (context)

|                   |          |                             |          |
|-------------------|----------|-----------------------------|----------|
| <b>atlocation</b> | function | F last                      |          |
| <b>blocks</b>     | table    | F next                      |          |
| D collected       |          | F prev                      |          |
| F define          |          | F previous                  |          |
| F empty           |          | 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 title           |              |
| F touserdata      |              |
| <b>inserts</b>    | <b>table</b> |
| F attach          |              |
| D data            |              |
| F define          |              |
| F detach          |              |
| F getdata         |              |
| F getlocation     |              |
| F getname         |              |
| F getnumber       |              |
| F nofdetached     |              |
| F setlocation     |              |
| F setup           |              |
| D stored          |              |
| <b>itemgroups</b> | <b>table</b> |
| D collected       |              |
| D tobesaved       |              |
| <b>lists</b>      | <b>table</b> |
| F addto           |              |
| F analyze         |              |
| F bookmark        |              |
| D cached          |              |
| D collected       |              |
| F discard         |              |
| F enhance         |              |
| T enhancers       |              |
| F external        |              |
| F filter          |              |
| F formulainumber  |              |
| F getresult       |              |
| F groupindex      |              |
| F hasnumberdata   |              |
| F haspagedata     |              |
| F hastitledata    |              |
| F integrate       |              |
| F iscached        |              |
| D kinds           |              |
| F label           |              |
| F location        |              |
| D names           |              |
| F number          |              |
| D ordered         |              |
| F page            |              |

|                            |              |
|----------------------------|--------------|
| F popnesting               |              |
| F prefix                   |              |
| F prefixednumber           |              |
| F prefixedpage             |              |
| F process                  |              |
| D pushed                   |              |
| F pushnesting              |              |
| F rawnumber                |              |
| F rawrealpage              |              |
| F rawuserpage              |              |
| F realpage                 |              |
| F reorder                  |              |
| F reordered                |              |
| T result                   |              |
| F savedlistnumber          |              |
| F savedlistprefixednumber  |              |
| F savedlisttitle           |              |
| D sectionblocks            |              |
| F size                     |              |
| F title                    |              |
| D tobesaved                |              |
| F use                      |              |
| F userdata                 |              |
| F userpage                 |              |
| F uservalue                |              |
| <b>marks</b>               | <b>table</b> |
| F number                   |              |
| F title                    |              |
| <b>notes</b>               | <b>table</b> |
| F check_spacing            |              |
| F checkpagechange          |              |
| F define                   |              |
| F doifonsamepageasprevious |              |
| F flushrange               |              |
| F get                      |              |
| F getdeltapage             |              |
| F getinternal              |              |
| F getn                     |              |
| F getstate                 |              |
| F hascontent               |              |
| F internal                 |              |
| F internalid               |              |
| F listindex                |              |
| D numbers                  |              |

- F ordered
- F postpone
- F resetpostponed
- F restore
- F save
- F setstate
- D states
- F store

## pages

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

## references

- F analyze
- F checked
- 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 executors
- F export

## table

## table

- T files
- T data
- F define
- F found
- F get
- F filter
- F filterdefault
- D filters
- D flaginternals
- F forceinnermode
- F from
- D functions
- F get
- F getcurrentlabel
- 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
- F integrate
- D internals
- F load
- F loadpresets
- F mark
- S outermethod
- F pagefromhash
- D pages
- U prefixsplitter
- D productdata
- T programs
- T data
- F define
- F get
- F realpageofpage
- F referenced
- U referencesplitter

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

- F valid
- registers**
- F analyze
- D collected
- F compare
- F define
- F enhance
- F extend
- F filter
- F filtercollected
- F finalize
- F findinternal
- F flush
- F get
- F integrate
- F prepare
- F process
- F setmethod
- F sort
- F store
- D tobesaved
- F tweak
- F unique
- F use
- 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
- table**
- table**

- F matchingtilldepth
- F numberatdepth
- F numbers
- F popblock
- F prefixedconverted
- F pushblock
- F register
- D registered
- F reportstructure
- F save
- T sectionblockdata
- T bodypart
  - S bookmark
- F set
- F setblock
- F setchecker
- F setentry
- F setinitialblock
- F setlevel
- F setnumber
- F showstructure
- F structuredata
- F title
- D tobesaved
- F typesetnumber
- F userdata
- B verbose

## sets table

- F define
- F get
- F getall
- D setlist

## specials table

- D collected
- F retrieve
- F store
- D tobesaved

## synonyms table

- F analyzed
- D collected
- F compare
- F define
- F enhance
- F filter

- F finalize
- F flush
- F isshown
- F isused
- F meaning
- F pages
- F prepare
- F process
- F register
- F registershown
- F registerused
- F reset
- F resetall
- F resetlist
- F resetshown
- F resetused
- F sort
- F synonym
- D tobesaved

## tags table

- F analyze
- T backend
- T checks
  - F marginanchor
  - F margintext
  - F math
  - F mrow
  - F mtable
- T destinationhash
- T extras
  - F adddestination
  - F addimplicit
  - F addinternal
  - F addreference
  - F combination
  - F combinationpair
  - F delimitedsymbol
  - F description
  - F descriptionsymbol
  - F document
  - F float
  - F formulacontent
  - F image
  - F item



|                     |                              |
|---------------------|------------------------------|
| F itemgroup         | F finishexport               |
| F link              | F getdescriptionindex        |
| F listitem          | F getextradata               |
| F mmultiscripts     | F getid                      |
| F mover             | F getitemgroup               |
| F mpgraphic         | F getmetadata                |
| F msub              | F getoption                  |
| F msubsup           | F getsorting                 |
| F msup              | F getsynonym                 |
| F munder            | F gettablecell               |
| F munderover        | F gettabulatecell            |
| F paragraph         | F gettagreferencedescription |
| F publication       | F handler                    |
| F reference         | T ignored                    |
| F registerlocation  | F initializeexport           |
| F registerpages     | D labels                     |
| F registerseparator | F last                       |
| F section           | F lastinchain                |
| F sorting           | F localexport                |
| F subsentencesymbol | F locatedtag                 |
| F synonym           | T modes                      |
| F tablecell         | S BlockQuote                 |
| F tabulate          | S FENote                     |
| F tabulatecell      | S H1                         |
| T finalizers        | S H2                         |
| F descriptions      | S H3                         |
| T fixes             | S H4                         |
| F linenumber        | S H5                         |
| F fontfaced         | S H6                         |
| T listdata          | S H7                         |
| T referencehash     | S H8                         |
| F setattribute      | S H9                         |
| F tofontface        | S Lbl                        |
| T usedimages        | S NonStruct                  |
| T image             | S P                          |
| T mpgraphic         | S Part                       |
| T usedstyles        | S Sect                       |
| T construct         | D overloads                  |
| T highlight         | T patterns                   |
| F checknesting      | U splitter                   |
| F current           | F pop                        |
| F elementtag        | D properties                 |
| F enabled           | F push                       |
| F exportbox         | F registerextradata          |

|                           |                    |
|---------------------------|--------------------|
| F registermetadata        | B Em               |
| F restart                 | B Form             |
| F setaspect               | B H                |
| F setattributehash        | B Index            |
| F setcodepoint            | B Link             |
| F setcombination          | B Note             |
| F setcombinationpair      | B Quote            |
| F setconstruct            | B Reference        |
| F setdescriptionindex     | B Strong           |
| F setfigure               | B TOC              |
| F setfloat                | B TOCI             |
| F setformulacontent       | B Title            |
| F sethighlight            | T usewithcare      |
| F setitem                 | T where            |
| F setitemgroup            | S Art              |
| F setmpgraphic            | S Artifact         |
| F setnotation             | S Aside            |
| F setnotationsymbol       | S BibEntry         |
| F setparagraph            | S BlockQuote       |
| F setproperty             | S Code             |
| F setpublication          | S DocumentFragment |
| F setregister             | S Em               |
| F setsorting              | S FENote           |
| F setsynonym              | S H1               |
| F settablecell            | S H2               |
| F settabulatecell         | S H3               |
| F settagdelimitedsymbol   | S H4               |
| F settagsubsentencesymbol | S H5               |
| F setuexport              | S H6               |
| F setuserproperties       | S H7               |
| D specifications          | S H8               |
| F start                   | S H9               |
| F stop                    | S Index            |
| F strip                   | S Note             |
| D taglist                 | S Private          |
| T unsupported             | S Quote            |
| B Annot                   | S Reference        |
| B Art                     | S Strong           |
| B BibEntry                | S Sub              |
| B Caption                 | S TOC              |
| B Document                | S TOCI             |
| B DocumentFragment        | S Title            |

## table (basic lua)

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

# tex (basic tex)

|                              |            |                                      |            |
|------------------------------|------------|--------------------------------------|------------|
| <b>amcode</b>                | table      | <b>discoptioncodes</b>               | data table |
| <b>attribute</b>             | table      | <b>discpartcodes</b>                 | data table |
| <b>attributetracking</b>     | function   | <b>dontcomplain</b>                  | function   |
| <b>automigrationcodes</b>    | data table | <b>doublescriptoptioncodes</b>       | data table |
| <b>autoparagraphcodes</b>    | data table | <b>enableprimitives</b>              | function   |
| <b>badness</b>               | function   | <b>error</b>                         | function   |
| <b>badnessmodecodes</b>      | data table | <b>expandasvalue</b>                 | function   |
| <b>balance</b>               | function   | <b>experiments</b>                   | data table |
| <b>balancecallbackcodes</b>  | data table | <b>extraprimitives</b>               | function   |
| <b>boundaries</b>            | table      | <b>fatalerror</b>                    | function   |
| D names                      |            | <b>fillcodes</b>                     | data table |
| D numbers                    |            | <b>flagcodes</b>                     | data table |
| F system                     |            | <b>fontidentifier</b>                | function   |
| <b>box</b>                   | table      | <b>fontname</b>                      | function   |
| <b>boxoptioncodes</b>        | data table | <b>forcehmode</b>                    | function   |
| <b>boxresources</b>          | table      | <b>forceinputstatefile</b>           | function   |
| F getbox                     |            | <b>forceinputstateline</b>           | function   |
| F getdimensions              |            | <b>fprint</b>                        | function   |
| F save                       |            | <b>frozenparcodes</b>                | data table |
| F use                        |            | <b>get</b>                           | function   |
| <b>breakcodes</b>            | data table | <b>getadjustoptionvalues</b>         | function   |
| <b>buildcodes</b>            | data table | <b>getalignmentcontextvalues</b>     | function   |
| <b>catcode</b>               | table      | <b>getamcode</b>                     | function   |
| <b>cccode</b>                | table      | <b>getappendadjustcontextvalues</b>  | function   |
| <b>charactercontrolcodes</b> | data table | <b>getappendmigratecontextvalues</b> | function   |
| <b>charactertagcodes</b>     | data table | <b>getattribute</b>                  | function   |
| <b>chardef</b>               | function   | <b>getautomigrationvalues</b>        | function   |
| <b>classoptioncodes</b>      | data table | <b>getautoparagraphvalues</b>        | function   |
| <b>codes</b>                 | table      | <b>getbadnessmodevalues</b>          | function   |
| <b>conditionals</b>          | data table | <b>getbalancecallbackvalues</b>      | function   |
| <b>constants</b>             | data table | <b>getbalanceparameterfields</b>     | function   |
| <b>count</b>                 | table      | <b>getbalanceresultfields</b>        | function   |
| <b>cprint</b>                | function   | <b>getbalancestepoptionvalues</b>    | function   |
| <b>ctdcatcodes</b>           | number     | <b>getbox</b>                        | function   |
| <b>ctxcatcodes</b>           | number     | <b>getboxdir</b>                     | function   |
| <b>definefont</b>            | function   | <b>getboxoptionvalues</b>            | function   |
| <b>delcode</b>               | table      | <b>getboxresourcebox</b>             | function   |
| <b>dimen</b>                 | table      | <b>getboxresourcedimensions</b>      | function   |
| <b>dimensiondef</b>          | function   | <b>getbreakcontextvalues</b>         | function   |
| <b>directioncodes</b>        | data table | <b>getbuildcontextvalues</b>         | function   |
| <b>directives</b>            | data table | <b>getcardinalvalue</b>              | function   |

|                                    |          |                                    |          |
|------------------------------------|----------|------------------------------------|----------|
| <b>getcatcode</b>                  | function | <b>getinsertmultiplier</b>         | function |
| <b>getcccode</b>                   | function | <b>getinsertwidth</b>              | function |
| <b>getcharactercontrolvalues</b>   | function | <b>getintegervalue</b>             | function |
| <b>getcharactertagvalues</b>       | function | <b>getinteraction</b>              | function |
| <b>getcount</b>                    | function | <b>getinteractionmodes</b>         | function |
| <b>getcurrentmvl</b>               | function | <b>getiovalues</b>                 | function |
| <b>getdelcode</b>                  | function | <b>getkerneloptionvalues</b>       | function |
| <b>getdelcodes</b>                 | function | <b>getkernoptionvalues</b>         | function |
| <b>getdimen</b>                    | function | <b>getlargestusedmark</b>          | function |
| <b>getdimensionvalue</b>           | function | <b>getlccode</b>                   | function |
| <b>getdirectionvalues</b>          | function | <b>getlinebreakparameterfields</b> | function |
| <b>getdiscoptionvalues</b>         | function | <b>getlinebreakresultfields</b>    | function |
| <b>getdiscpartvalues</b>           | function | <b>getlinebreakstatevalues</b>     | function |
| <b>getdoublescriptoptionvalues</b> | function | <b>getlinedir</b>                  | function |
| <b>getemptyparagraphmodevalues</b> | function | <b>getlist</b>                     | function |
| <b>geterrorvalues</b>              | function | <b>getlistanchorvalues</b>         | function |
| <b>getfillvalues</b>               | function | <b>getlistfields</b>               | function |
| <b>getflagvalues</b>               | function | <b>getlistgeometryvalues</b>       | function |
| <b>getfloat</b>                    | function | <b>getlistsignvalues</b>           | function |
| <b>getfontoffamily</b>             | function | <b>getlocalbox</b>                 | function |
| <b>getfrozenparvalues</b>          | function | <b>getlocalboxlocations</b>        | function |
| <b>getglue</b>                     | function | <b>getlocallevel</b>               | function |
| <b>getglueoptionvalues</b>         | function | <b>getmark</b>                     | function |
| <b>getglyphdata</b>                | function | <b>getmarknames</b>                | function |
| <b>getglyphdiscvalues</b>          | function | <b>getmath</b>                     | function |
| <b>getglyphphoptionvalues</b>      | function | <b>getmathclassoptionvalues</b>    | function |
| <b>getglyphprotectionvalues</b>    | function | <b>getmathcode</b>                 | function |
| <b>getglyphscales</b>              | function | <b>getmathcodes</b>                | function |
| <b>getglyphscript</b>              | function | <b>getmathcontrolvalues</b>        | function |
| <b>getglyphstate</b>               | function | <b>getmathdir</b>                  | function |
| <b>getgroupvalues</b>              | function | <b>getmathgluevalues</b>           | function |
| <b>gethccode</b>                   | function | <b>getmathoptionvalues</b>         | function |
| <b>gethelptext</b>                 | function | <b>getmathparametervalues</b>      | function |
| <b>gethmcode</b>                   | function | <b>getmathscriptordervalue</b>     | function |
| <b>gethyphenationvalues</b>        | function | <b>getmathscriptsmodevalues</b>    | function |
| <b>getiftypes</b>                  | function | <b>getmathstylenamevalues</b>      | function |
| <b>getinputstatefile</b>           | function | <b>getmathstylevalues</b>          | function |
| <b>getinputstateline</b>           | function | <b>getmathstylevariant</b>         | function |
| <b>getinputstatemode</b>           | function | <b>getmathsurroundvalues</b>       | function |
| <b>getinsertcontent</b>            | function | <b>getmathvariantpresets</b>       | function |
| <b>getinsertdepth</b>              | function | <b>getmathvariantvalues</b>        | function |
| <b>getinsertdistance</b>           | function | <b>getmeasure</b>                  | function |
| <b>getinsertheight</b>             | function | <b>getmissingcharactervalues</b>   | function |
| <b>getinsertlimit</b>              | function | <b>getmode</b>                     | function |

|                                     |          |                                 |            |
|-------------------------------------|----------|---------------------------------|------------|
| <b>getmodevalues</b>                | function | <b>getuleaderlocationvalues</b> | function   |
| <b>getmuglue</b>                    | function | <b>getunitclassvalues</b>       | function   |
| <b>getmuskip</b>                    | function | <b>getusedmarks</b>             | function   |
| <b>getmvloptionvalues</b>           | function | <b>getvsplitcontextvalues</b>   | function   |
| <b>getnest</b>                      | function | <b>glue</b>                     | table      |
| <b>getnestfields</b>                | function | <b>glueoptioncodes</b>          | data table |
| <b>getnestlevel</b>                 | function | <b>glyphdiscodes</b>            | data table |
| <b>getnoadoptiovalues</b>           | function | <b>glyphoptioncodes</b>         | data table |
| <b>getnormalizelinevalues</b>       | function | <b>groupcodes</b>               | data table |
| <b>getnormalizeparvalues</b>        | function | <b>hashtokens</b>               | function   |
| <b>getoutputactive</b>              | function | <b>hccode</b>                   | table      |
| <b>getpacktypevalues</b>            | function | <b>hmcode</b>                   | table      |
| <b>getpagecontextvalues</b>         | function | <b>hshcatcodes</b>              | number     |
| <b>getpagestate</b>                 | function | <b>hyphenationcodes</b>         | data table |
| <b>getpagestatevalues</b>           | function | <b>ifs</b>                      | data table |
| <b>getparametermodevalues</b>       | function | <b>inimatcodes</b>              | number     |
| <b>getparcontextvalues</b>          | function | <b>integerdef</b>               | function   |
| <b>getpardataspecifications</b>     | function | <b>interactioncodes</b>         | data table |
| <b>getpardir</b>                    | function | <b>isattribute</b>              | function   |
| <b>getparmodevalues</b>             | function | <b>isbox</b>                    | function   |
| <b>getparstate</b>                  | function | <b>iscount</b>                  | function   |
| <b>getparstatefields</b>            | function | <b>isdefined</b>                | function   |
| <b>getpartriggervvalues</b>         | function | <b>isdimen</b>                  | function   |
| <b>getpenaltyoptionvalues</b>       | function | <b>isfloat</b>                  | function   |
| <b>getpositvalue</b>                | function | <b>isglue</b>                   | function   |
| <b>getprepoststatevalues</b>        | function | <b>ismuglue</b>                 | function   |
| <b>getprimitivelegacies</b>         | function | <b>ismuskip</b>                 | function   |
| <b>getprimitiveorigins</b>          | function | <b>isprintable</b>              | function   |
| <b>getprotrusionboundaryvalues</b>  | function | <b>isskip</b>                   | function   |
| <b>getregisterindex</b>             | function | <b>istoks</b>                   | function   |
| <b>getruleoptionvalues</b>          | function | <b>lastnodetype</b>             | function   |
| <b>getrunstate</b>                  | function | <b>lccode</b>                   | table      |
| <b>getrunstatevalues</b>            | function | <b>linebreak</b>                | function   |
| <b>getsfcode</b>                    | function | <b>linebreakstatecodes</b>      | data table |
| <b>getshapingpenaltiesvalues</b>    | function | <b>listanchorcodes</b>          | data table |
| <b>getskip</b>                      | function | <b>listgeometrycodes</b>        | data table |
| <b>getsnappingvalues</b>            | function | <b>lists</b>                    | table      |
| <b>getspecialmathclassvalues</b>    | function | <b>listsigncodes</b>            | data table |
| <b>getspecification</b>             | function | <b>luacatcodes</b>              | number     |
| <b>getspecificationoptionvalues</b> | function | <b>magicconstants</b>           | table      |
| <b>gettextcontrolvalues</b>         | function |                                 |            |
| <b>gettextdir</b>                   | function |                                 |            |
| <b>gettoks</b>                      | function |                                 |            |
| <b>getuccode</b>                    | function |                                 |            |

S activecharacternamespace

N allfitnessvalues

N assumedmathcontrol

N awfulbad

|                              |                           |
|------------------------------|---------------------------|
| N decentcriterion            | N maxhalfword             |
| N defaultcatcodetable        | N maxinteger              |
| N defaultcharactercontrol    | N maxintegerregisterindex |
| N defaultdeadcycles          | N maxintregisterindex     |
| N defaulteqnogapstep         | N maxlimitedscale         |
| N defaulthangafter           | N maxmarkindex            |
| N defaultoutputbox           | N maxmathclasscode        |
| N defaultpredisplaygap       | N maxmathfamilyindex      |
| N defaultrule                | N maxmathscalingfactor    |
| N defaultspacefactor         | N maxmathstylescale       |
| N defaulttolerance           | N maxmugluregisterindex   |
| N deplorable                 | N maxmvlinx               |
| N ejectpenalty               | N maxnewlinecharacter     |
| N ignoredepth                | N maxnofbytecodes         |
| N infinitebad                | N maxnofcatcodetables     |
| N infinitepenalty            | N maxnoffitnessvalues     |
| N infinity                   | N maxnoffonts             |
| N largewidthexcess           | N maxnoflanguages         |
| N loosecriterion             | N maxnofmarks             |
| N mathallclass               | N maxnofmathfamilies      |
| N mathbeginclass             | N maxquarterword          |
| N mathdefaultpenalty         | N maxscalefactor          |
| N mathendclass               | N maxsizeofword           |
| N mathfirstuserclass         | N maxspacefactor          |
| N mathlastuserclass          | N maxtoksregisterindex    |
| N maxattributeregisterindex  | N maxtwinlength           |
| N maxboxregisterindex        | N mincardinal             |
| N maxbytecodeindex           | N mindatavalue            |
| N maxcalculatedbadness       | N mindimen                |
| N maxcardinal                | N mindimension            |
| N maxcharactercode           | N minhalfword             |
| N maxdatavalue               | N mininfinity             |
| N maxdimen                   | N mininteger              |
| N maxdimenregisterindex      | N minmvlinx               |
| N maxdimension               | N minnoffitnessvalues     |
| N maxdimensionregisterindex  | N minquarterword          |
| N maxendlinecharacter        | N minscalefactor          |
| N maxfloatregisterindex      | N minspacefactor          |
| N maxfontadjustshrinkfactor  | N nocatcodetable          |
| N maxfontadjuststep          | N null                    |
| N maxfontadjuststretchfactor | N nullflag                |
| N maxfunctionreference       | N nullfont                |
| N maxgluregisterindex        | N onebp                   |
| N maxhalfvalue               | N presetrulethickness     |

|                             |            |                         |            |
|-----------------------------|------------|-------------------------|------------|
| N runningrule               |            | popsavelevel            | function   |
| N smallstretchability       |            | posit                   | table      |
| N specialspacefactor        |            | positdef                | function   |
| N texeqtbsize               |            | preparelinebreak        | function   |
| N texhashprime              |            | primitives              | function   |
| N texhashsize               |            | print                   | function   |
| N two                       |            | protrusionboundarycodes | data table |
| N undefinedmathparameter    |            | prtcacodes              | number     |
| N unity                     |            | pushlocal               | function   |
| N unusedattributevalue      |            | pushsavelevel           | function   |
| N unusedmathfamily          |            | quitlocal               | function   |
| N unusedmathstyle           |            | quittoks                | function   |
| N unusedscriptvalue         |            | resetparagraph          | function   |
| N unusedstatevalue          |            | rlncacodes              | number     |
| N zeroglue                  |            | romannumeral            | function   |
| <b>mathchardef</b>          | function   | round                   | function   |
| <b>mathcode</b>             | table      | ruleoptioncodes         | data table |
| <b>mathcontrolcodes</b>     | data table | runlocal                | function   |
| <b>mathoptioncodes</b>      | data table | runstatecodes           | data table |
| <b>mathparametercodes</b>   | data table | runstring               | function   |
| <b>mathscriptordercodes</b> | data table | runtoks                 | function   |
| <b>mathscriptsmodecodes</b> | data table | saveboxresource         | function   |
| <b>modelevels</b>           | table      | scale                   | function   |
| N horizontal                |            | scantoks                | function   |
| N math                      |            | set                     | function   |
| N unset                     |            | setamcode               | function   |
| N vertical                  |            | setattribute            | function   |
| <b>modes</b>                | data table | setbalanceshape         | function   |
| <b>mprint</b>               | function   | setbox                  | function   |
| <b>muglue</b>               | table      | setboxdir               | function   |
| <b>muskip</b>               | table      | setcardinalvalue        | function   |
| <b>mvloptioncodes</b>       | data table | setcatcode              | function   |
| <b>nest</b>                 | table      | setcccode               | function   |
| <b>nilcatcodes</b>          | number     | setconditional          | function   |
| <b>noadoptioncodes</b>      | data table | setcount                | function   |
| <b>normalizelinecodes</b>   | data table | setdelcode              | function   |
| <b>normalizeparcodes</b>    | data table | setdimen                | function   |
| <b>notcatcodes</b>          | number     | setdimensionvalue       | function   |
| <b>number</b>               | function   | setfloat                | function   |
| <b>overloadpermitted</b>    | function   | setglue                 | function   |
| <b>parcontextcodes</b>      | data table | setglyphdata            | function   |
| <b>partriggercodes</b>      | data table | setglyphscript          | function   |
| <b>penaltyoptioncodes</b>   | data table | setglyphstate           | function   |
| <b>poplocal</b>             | function   | sethccode               | function   |



|                              |                     |                                 |            |
|------------------------------|---------------------|---------------------------------|------------|
| <b>sethcode</b>              | function            | <b>showcontext</b>              | function   |
| <b>setinputstatefile</b>     | function            | <b>skip</b>                     | table      |
| <b>setinputstateline</b>     | function            | <b>snappingcodes</b>            | data table |
| <b>setinputstatemode</b>     | function            | <b>snapshotpar</b>              | function   |
| <b>setinsertcontent</b>      | function            | <b>sp</b>                       | function   |
| <b>setinsertdistance</b>     | function            | <b>specialmathclasscodes</b>    | data table |
| <b>setinsertlimit</b>        | function            | <b>specificationoptioncodes</b> | data table |
| <b>setinsertmultiplier</b>   | function            | <b>splitbox</b>                 | function   |
| <b>setintegervalue</b>       | function            | <b>splitcodes</b>               | data table |
| <b>setinteraction</b>        | function            | <b>sprint</b>                   | function   |
| <b>setlcode</b>              | function            | <b>stringtocodesbitmap</b>      | function   |
| <b>setlinedir</b>            | function            | <b>systemmodes</b>              | data table |
| <b>setlist</b>               | function            | <b>takebox</b>                  | function   |
| <b>setlocalbox</b>           | function            | <b>texcatcodes</b>              | number     |
| <b>setmath</b>               | function            | <b>textcontrolcodes</b>         | data table |
| <b>setmathcode</b>           | function            | <b>toks</b>                     | table      |
| <b>setmathdir</b>            | function            | <b>tonumber</b>                 | function   |
| <b>setmuglue</b>             | function            | <b>toscaled</b>                 | function   |
| <b>setmuskip</b>             | function            | <b>tpacatcodes</b>              | number     |
| <b>setnest</b>               | function            | <b>tpbcatcodes</b>              | number     |
| <b>setpardir</b>             | function            | <b>tprint</b>                   | function   |
| <b>setpositvalue</b>         | function            | <b>trackedattribute</b>         | function   |
| <b>setrunstate</b>           | overloaded function | <b>trackers</b>                 | data table |
| <b>setsfcode</b>             | function            | <b>triggerbuildpage</b>         | function   |
| <b>setskip</b>               | function            | <b>txtcatcodes</b>              | number     |
| <b>settexmdir</b>            | function            | <b>uccode</b>                   | table      |
| <b>settoks</b>               | function            | <b>uprint</b>                   | function   |
| <b>setuccode</b>             | function            | <b>useboxresource</b>           | function   |
| <b>sfcode</b>                | table               | <b>userdiscoptioncodes</b>      | data table |
| <b>shapingpenaltiescodes</b> | data table          | <b>userglyphoptioncodes</b>     | data table |
| <b>shiftparshape</b>         | function            | <b>vrbcacodes</b>               | number     |
| <b>shipout</b>               | function            | <b>write</b>                    | function   |

# texconfig (basic tex)

|  |                     |   |        |
|--|---------------------|---|--------|
| <b>buffer</b> <b>size</b>                        | table               | <b>language</b> <b>size</b>                   | table  |
| N size   |                     | N size  |        |
| N step   |                     | N step  |        |
| <b>error</b> <b>line</b> <b>size</b>             | table               | <b>mark</b> <b>size</b>                       | table  |
| N size   |                     | N size  |        |
| <b>expand</b> <b>size</b>                        | table               | N step  |        |
| N size   |                     | <b>nest</b> <b>size</b>                       | table  |
| <b>file</b> <b>size</b>                          | table               | N size  |        |
| N size   |                     | N step  |        |
| N step   |                     | <b>node</b> <b>size</b>                       | table  |
| <b>first</b> <b>line</b>                         | string              | N size  |        |
| <b>font</b> <b>size</b>                          | table               | N step  |        |
| N size   |                     | <b>param</b> <b>eter</b> <b>size</b>          | table  |
| N step   |                     | N size  |        |
| <b>format</b> <b>name</b>                        | string              | N step  |        |
| <b>function</b> <b>size</b>                      | number              | <b>pool</b> <b>size</b>                       | table  |
| <b>half</b> <b>error</b> <b>line</b> <b>size</b> | table               | N size  |        |
| N size   |                     | N step  |        |
| <b>hash</b> <b>size</b>                          | table               | <b>prop</b> <b>erti</b> <b>ess</b> <b>ize</b> | number |
| N size   |                     | <b>save</b> <b>size</b>                       | table  |
| N step   |                     | N size  |        |
| <b>init</b>                                      | overloaded function | N step  |        |
| <b>input</b> <b>size</b>                         | table               | <b>shell_</b> <b>escape</b>                   | string |
| N size   |                     | <b>string</b> <b>size</b>                     | table  |
| N step   |                     | N size  |        |
| <b>insert</b> <b>size</b>                        | table               | N step  |        |
| N size   |                     | <b>token</b> <b>size</b>                      | table  |
| N step   |                     | N size  |        |
| <b>kpse_</b> <b>init</b>                         | boolean             | N step  |        |

## texio (basic tex)

|                          |          |
|--------------------------|----------|
| <b>closeinput</b>        | function |
| <b>forceendoffile</b>    | function |
| <b>getinputindex</b>     | function |
| <b>getselectorvalues</b> | function |
| <b>getsourcefilename</b> | function |
| <b>setlogfile</b>        | function |
| <b>terminal</b>          | function |

|                        |          |
|------------------------|----------|
| <b>write</b>           | function |
| <b>write_nl</b>        | function |
| <b>writeln</b>         | function |
| <b>writeselector</b>   | function |
| <b>writeselectorlf</b> | function |
| <b>writeselectornl</b> | function |

## token (basic tex)

|                         |          |                          |          |
|-------------------------|----------|--------------------------|----------|
| <b>create</b>           | function | <b>getexpandable</b>     | function |
| <b>expand</b>           | function | <b>getexpansion</b>      | function |
| <b>expand_macro</b>     | function | <b>getfields</b>         | function |
| <b>expandmacro</b>      | function | <b>getflags</b>          | function |
| <b>future_expand</b>    | function | <b>getfrozen</b>         | function |
| <b>futureexpand</b>     | function | <b>getfunctionvalues</b> | function |
| <b>get_active</b>       | function | <b>getid</b>             | function |
| <b>get_cmdchrscs</b>    | function | <b>getimmutable</b>      | function |
| <b>get_cmdname</b>      | function | <b>getindex</b>          | function |
| <b>get_command</b>      | function | <b>getinstance</b>       | function |
| <b>get_csname</b>       | function | <b>getinteger</b>        | function |
| <b>get_cstoken</b>      | function | <b>getlength</b>         | function |
| <b>get_dimension</b>    | function | <b>getmacro</b>          | function |
| <b>get_expandable</b>   | function | <b>getmeaning</b>        | function |
| <b>get_fields</b>       | function | <b>getnoaligned</b>      | function |
| <b>get_flags</b>        | function | <b>getparameters</b>     | function |
| <b>get_frozen</b>       | function | <b>getpermanent</b>      | function |
| <b>get_id</b>           | function | <b>getprimitive</b>      | function |
| <b>get_immutable</b>    | function | <b>getprimitives</b>     | function |
| <b>get_index</b>        | function | <b>getprotected</b>      | function |
| <b>get_instance</b>     | function | <b>getrange</b>          | function |
| <b>get_integer</b>      | function | <b>gettok</b>            | function |
| <b>get_macro</b>        | function | <b>gettolerant</b>       | function |
| <b>get_meaning</b>      | function | <b>gobble</b>            | function |
| <b>get_noaligned</b>    | function | <b>gobble_dimension</b>  | function |
| <b>get_parameters</b>   | function | <b>gobble_integer</b>    | function |
| <b>get_permanent</b>    | function | <b>gobbledimension</b>   | function |
| <b>get_primitive</b>    | function | <b>gobbleinteger</b>     | function |
| <b>get_protected</b>    | function | <b>grab</b>              | function |
| <b>get_range</b>        | function | <b>grabstring</b>        | function |
| <b>get_tok</b>          | function | <b>inhibit</b>           | function |
| <b>get_tolerant</b>     | function | <b>is_defined</b>        | function |
| <b>getactive</b>        | function | <b>is_next_char</b>      | function |
| <b>getcmdchrscs</b>     | function | <b>is_token</b>          | function |
| <b>getcmdname</b>       | function | <b>isactivestring</b>    | function |
| <b>getcommand</b>       | function | <b>isdefined</b>         | function |
| <b>getcommandvalues</b> | function | <b>isnextchar</b>        | function |
| <b>getconstant</b>      | function | <b>istoken</b>           | function |
| <b>getcsname</b>        | function | <b>locatemacro</b>       | function |
| <b>getcstoken</b>       | function | <b>new</b>               | function |
| <b>getdimension</b>     | function | <b>peek_next</b>         | function |

|                                   |          |                                    |          |
|-----------------------------------|----------|------------------------------------|----------|
| <code>peek_next_char</code>       | function | <code>scan_tokenlist</code>        | function |
| <code>peek_next_expanded</code>   | function | <code>scan_toks</code>             | function |
| <code>peeknext</code>             | function | <code>scan_value</code>            | function |
| <code>peeknextchar</code>         | function | <code>scan_word</code>             | function |
| <code>peeknextexpanded</code>     | function | <code>scanargument</code>          | function |
| <code>pop_macro</code>            | function | <code>scanbox</code>               | function |
| <code>popmacro</code>             | function | <code>scancardinal</code>          | function |
| <code>push_macro</code>           | function | <code>scanchar</code>              | function |
| <code>pushmacro</code>            | function | <code>scancmdchr</code>            | function |
| <code>put_back</code>             | function | <code>scancmdchrexplanded</code>   | function |
| <code>put_next</code>             | function | <code>scancode</code>              | function |
| <code>putback</code>              | function | <code>scancsname</code>            | function |
| <code>putnext</code>              | function | <code>scan cstoken</code>          | function |
| <code>save_lua</code>             | function | <code>scandelimited</code>         | function |
| <code>savelua</code>              | function | <code>scandetokened</code>         | function |
| <code>scan_argument</code>        | function | <code>scandimen</code>             | function |
| <code>scan_box</code>             | function | <code>scandimenargument</code>     | function |
| <code>scan_cardinal</code>        | function | <code>scandimension</code>         | function |
| <code>scan_char</code>            | function | <code>scandimensionargument</code> | function |
| <code>scan_cmdchr</code>          | function | <code>scanfloat</code>             | function |
| <code>scan_cmdchr_expanded</code> | function | <code>scanglue</code>              | function |
| <code>scan_code</code>            | function | <code>scanint</code>               | function |
| <code>scan_csname</code>          | function | <code>scaninteger</code>           | function |
| <code>scan_delimited</code>       | function | <code>scanintegerargument</code>   | function |
| <code>scan_dimen</code>           | function | <code>scankey</code>               | function |
| <code>scan_float</code>           | function | <code>scankeyword</code>           | function |
| <code>scan_glue</code>            | function | <code>scankeywordcs</code>         | function |
| <code>scan_integer</code>         | function | <code>scanletters</code>           | function |
| <code>scan_key</code>             | function | <code>scanluacardinal</code>       | function |
| <code>scan_keyword</code>         | function | <code>scanluainteger</code>        | function |
| <code>scan_keyword_cs</code>      | function | <code>scanluanumber</code>         | function |
| <code>scan_letters</code>         | function | <code>scannext</code>              | function |
| <code>scan_luacardinal</code>     | function | <code>scannextchar</code>          | function |
| <code>scan_luainteger</code>      | function | <code>scannextexpanded</code>      | function |
| <code>scan_luanumber</code>       | function | <code>scanposit</code>             | function |
| <code>scan_next</code>            | function | <code>scanreal</code>              | function |
| <code>scan_next_char</code>       | function | <code>scanscale</code>             | function |
| <code>scan_next_expanded</code>   | function | <code>scanskip</code>              | function |
| <code>scan_real</code>            | function | <code>scanstring</code>            | function |
| <code>scan_scale</code>           | function | <code>scantoken</code>             | function |
| <code>scan_skip</code>            | function | <code>scantokencode</code>         | function |
| <code>scan_string</code>          | function | <code>scantokenlist</code>         | function |
| <code>scan_token</code>           | function | <code>scantokenstring</code>       | function |
| <code>scan_token_code</code>      | function | <code>scantoks</code>              | function |

|                      |          |                           |          |
|----------------------|----------|---------------------------|----------|
| <b>scanvalue</b>     | function | <b>setmacro</b>           | function |
| <b>scanword</b>      | function | <b>setmacrofrommark</b>   | function |
| <b>serialize</b>     | function | <b>setmacrotonothing</b>  | function |
| <b>set_dimension</b> | function | <b>skip_next</b>          | function |
| <b>set_integer</b>   | function | <b>skip_next_expanded</b> | function |
| <b>set_lua</b>       | function | <b>skipnext</b>           | function |
| <b>set_macro</b>     | function | <b>skipnextexpanded</b>   | function |
| <b>setdimension</b>  | function | <b>type</b>               | function |
| <b>setinteger</b>    | function | <b>undefine_macro</b>     | function |
| <b>setlua</b>        | function | <b>undefinemacro</b>      | function |

# tokens (context)

**accessors** table

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

**astable** function

**bits** table

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

**cache** data table

**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

**gobble** function

**isactivestring** function

**isdefined** function

**istoken** function

**new** function

**pickup** function

**popmacro** function

**presets** table

T 1 argument

T 1 integer

T 1 optional

T 1 string

T 2 arguments

T 2 integers

T 2 optionals

T 2 strings

T 3 arguments

T 3 integers

T 3 optionals

T 3 strings

T 4 arguments

T 4 integers

T 4 optionals

|                     |          |                   |          |
|---------------------|----------|-------------------|----------|
| T 4 strings         |          | F luainteger      |          |
| T 5 strings         |          | F luanumber       |          |
| T 6 strings         |          | F lxmlid          |          |
| T 7 strings         |          | F next            |          |
| T 8 strings         |          | F nextchar        |          |
| <b>pushmacro</b>    | function | F nextexpanded    |          |
| <b>scanners</b>     | table    | F number          |          |
| F argument          |          | F optional        |          |
| F argumentasis      |          | F peek            |          |
| F array             |          | F peekchar        |          |
| F boolean           |          | F peekexpanded    |          |
| F box               |          | F posit           |          |
| F bracketed         |          | F real            |          |
| F bracketedasis     |          | F scanclose       |          |
| F cardinal          |          | F scanopen        |          |
| F char              |          | F skip            |          |
| F cmdchr            |          | F skipexpanded    |          |
| F cmdchrexploded    |          | F string          |          |
| F code              |          | F table           |          |
| F conditional       |          | F token           |          |
| F count             |          | F tokencode       |          |
| F csname            |          | F tokenlist       |          |
| F csnameunchecked   |          | F tokens          |          |
| F delimited         |          | F tokenstring     |          |
| F detokened         |          | F toks            |          |
| F dimen             |          | F value           |          |
| F dimension         |          | F vbox            |          |
| F dimensionargument |          | F verbatim        |          |
| F float             |          | F vtop            |          |
| F glue              |          | F whd             |          |
| F gluespec          |          | F word            |          |
| F gluevalues        |          | <b>setinteger</b> | function |
| F hash              |          | <b>setters</b>    | table    |
| F hbox              |          | F box             |          |
| F integer           |          | F char            |          |
| F integerargument   |          | F count           |          |
| F ischar            |          | F dimen           |          |
| F key               |          | F glue            |          |
| F keyword           |          | F lua             |          |
| F keywordcs         |          | F macro           |          |
| F letters           |          | F skip            |          |
| F list              |          | <b>shortcuts</b>  | table    |
| F lua               |          | T bits            |          |
| F luacardinal       |          | N active          |          |



|               |                    |
|---------------|--------------------|
| N alignment   | F atan             |
| N begingroup  | F band             |
| N character   | F bor              |
| N close       | F bxor             |
| N comment     | F ceil             |
| N endgroup    | F conj             |
| N endofline   | F copy             |
| N escape      | F cos              |
| N ignore      | F exp              |
| N invalid     | F exp2             |
| N letter      | F expand           |
| N mathshift   | F floor            |
| N open        | F frombyte         |
| N other       | F fromchar         |
| N parameter   | F fromposit        |
| N space       | F integer          |
| N subscript   | F log              |
| N superscript | F log10            |
| N whitespace  | F loglp            |
| N close       | F log2             |
| F inspect     | F logb             |
| N open        | F max              |
| T posit       | F min              |
| F NaN         | F modf             |
| F NaR         | F new              |
| F __add       | F pow              |
| F __band      | F rotate           |
| F __bor       | F round            |
| F __bxor      | F rounded          |
| F __div       | F shift            |
| F __eq        | F sin              |
| F __le        | F sqrt             |
| F __lt        | F tan              |
| F __mul       | F tobyte           |
| S __name      | F tochar           |
| F __pow       | F tonumber         |
| F __shl       | F toposit          |
| F __shr       | F toString         |
| F __sub       | F report           |
| F __toString  | F scanargument     |
| F __unm       | F scanargumentasis |
| F abs         | F scanarray        |
| F acos        | F scanboolean      |
| F asin        | F scanbox          |

|                         |                     |
|-------------------------|---------------------|
| F scanbracketed         | F detokened         |
| F scanbracketedasis     | F dimen             |
| F scancardinal          | F dimension         |
| F scanclose             | F dimensionargument |
| F scancode              | F float             |
| F scanconditional       | F glue              |
| F scanscname            | F gluespec          |
| F scanscnameunchecked   | F gluevalues        |
| F scandelimited         | F hash              |
| F scandetokened         | F hbox              |
| F scandimen             | F integer           |
| F scandimension         | F integerargument   |
| F scandimensionargument | F ischar            |
| F scanfloat             | F key               |
| F scanglue              | F keyword           |
| F scangluespec          | F keywordcs         |
| F scangluevalues        | F letters           |
| F scanhash              | F list              |
| F scanhbox              | F lua               |
| F scaninteger           | F luacardinal       |
| F scanintegerargument   | F luainteger        |
| F scankeyword           | F luanumber         |
| F scankeywordcs         | F lxmlid            |
| F scanletters           | F next              |
| F scanlist              | F nextchar          |
| F scanlua               | F nextexpanded      |
| T scanners              | F number            |
| F argument              | F optional          |
| F argumentasis          | F peek              |
| F array                 | F peekchar          |
| F boolean               | F peekexpanded      |
| F box                   | F posit             |
| F bracketed             | F real              |
| F bracketedasis         | F scanclose         |
| F cardinal              | F scanopen          |
| F char                  | F skip              |
| F cmdchr                | F skipexpanded      |
| F cmdchrexplanded       | F string            |
| F code                  | F table             |
| F conditional           | F token             |
| F count                 | F tokencode         |
| F csname                | F tokenlist         |
| F csnameunchecked       | F tokens            |
| F delimited             | F tokenstring       |

|                   |                    |
|-------------------|--------------------|
| F toks            | S toglue           |
| F value           | S tonumber         |
| F vbox            | S toString         |
| F verbatim        | F create           |
| F vtop            | F defined          |
| F whd             | F flags            |
| F word            | F getinteger       |
| F scannumber      | T getters          |
| F scanopen        | F box              |
| F scanoptional    | F count            |
| F scanposit       | F ctoken           |
| F scanstring      | F dimen            |
| F scantable       | F glue             |
| F scantokenlist   | F macro            |
| F scantokenstring | F meaning          |
| F scantoks        | F skip             |
| F scanvbox        | F token            |
| F scanverbatim    | F gobble           |
| F scanvtop        | F isactivestring   |
| F scanword        | F isdefined        |
| F toboolean       | F istoken          |
| F todimen         | F new              |
| T tokens          | F pickup           |
| T accessors       | F popmacro         |
| F active          | T presets          |
| F cmd             | F pushmacro        |
| F cmdchrsc        | F setinteger       |
| F cmdname         | T setters          |
| F command         | F box              |
| F csname          | F char             |
| F expandable      | F count            |
| F frozen          | F dimen            |
| F index           | F glue             |
| F name            | F lua              |
| F protected       | F macro            |
| F range           | F skip             |
| F astable         | T shortcuts        |
| D cache           | N close            |
| D commands        | F inspect          |
| F compile         | N open             |
| F constant        | F report           |
| T converters      | F scanargument     |
| S toboolean       | F scanargumentasis |
| S todimen         | F scanarray        |

|                         |                   |            |
|-------------------------|-------------------|------------|
| F scanboolean           | F scanletters     |            |
| F scanbox               | F scanlist        |            |
| F scanbracketed         | F scanlua         |            |
| F scanbracketedasis     | F scannumber      |            |
| F scancardinal          | F scanopen        |            |
| F scanclose             | F scanoptional    |            |
| F scancode              | F scanposit       |            |
| F scanconditional       | F scanstring      |            |
| F scancsname            | F scantable       |            |
| F scancsnameunchecked   | F scantokenlist   |            |
| F scandelimited         | F scantokenstring |            |
| F scandetokened         | F scantoks        |            |
| F scandimen             | F scanvbox        |            |
| F scandimension         | F scanverbatim    |            |
| F scandimensionargument | F scanvtop        |            |
| F scanfloat             | F scanword        |            |
| F scanglue              | F toboolean       |            |
| F scangluespec          | F todimen         |            |
| F scangluevalues        | F tonumber        |            |
| F scanhash              | F tostring        |            |
| F scanhbox              | D values          |            |
| F scaninteger           | F tonumber        |            |
| F scanintegerargument   | F tostring        |            |
| F scankeyword           | <b>values</b>     | data table |
| F scankeywordcs         |                   |            |

## tracers (context)

**printerror**    function  
**printwarning**    function

**showlines**    function

## trackers (context)

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

# typesetters (context)

|                       |       |  |  |                   |       |
|-----------------------|-------|--|--|-------------------|-------|
| <b>alignments</b>     | table |  |  | T actions         |       |
| F handler             |       |  |  | F handler         |       |
| F set                 |       |  |  | F set             |       |
| <b>breakpoints</b>    | table |  |  | <b>directions</b> | table |
| F define              |       |  |  | F getfences       |       |
| F handler             |       |  |  | F getglobal       |       |
| D mapping             |       |  |  | F getmethod       |       |
| T methods             |       |  |  | F handler         |       |
| T numbers             |       |  |  | T handlers        |       |
| F set                 |       |  |  | F installhandler  |       |
| F setreplacement      |       |  |  | F set             |       |
| <b>cases</b>          | table |  |  | F setcolor        |       |
| T actions             |       |  |  | F tomode          |       |
| F handler             |       |  |  | <b>firstlines</b> | table |
| F register            |       |  |  | T actions         |       |
| F set                 |       |  |  | F default         |       |
| <b>characteralign</b> | table |  |  | F line            |       |
| F handler             |       |  |  | F word            |       |
| F resetcharacteralign |       |  |  | F handler         |       |
| F setcharacteralign   |       |  |  | F set             |       |
| <b>characters</b>     | table |  |  | <b>fontkerns</b>  | table |
| F handler             |       |  |  | F handler         |       |
| T methods             |       |  |  | <b>initials</b>   | table |
| F replacensbp         |       |  |  | T actions         |       |
| F replacenspaces      |       |  |  | F default         |       |
| <b>checkers</b>       | table |  |  | F handler         |       |
| F handler             |       |  |  | F set             |       |
| F reset               |       |  |  | <b>injectors</b>  | table |
| F set                 |       |  |  | F check           |       |
| <b>cleaners</b>       | table |  |  | T list            |       |
| F handler             |       |  |  | F mark            |       |
| F set                 |       |  |  | F reset           |       |
| <b>compare</b>        | table |  |  | F set             |       |
| F handler             |       |  |  | F show            |       |
| F reset               |       |  |  | <b>italics</b>    | table |
| F set                 |       |  |  | F enablemath      |       |
| F setpair             |       |  |  | F enabletext      |       |
| F setup               |       |  |  | F handler         |       |
| <b>corrections</b>    | table |  |  | <b>kerns</b>      | table |
| F handler             |       |  |  | D factors         |       |
| <b>digits</b>         | table |  |  | F handler         |       |

|                            |          |
|----------------------------|----------|
| F keepligature             |          |
| D mapping                  |          |
| F set                      |          |
| <b>localboxes</b>          | table    |
| F handler                  |          |
| <b>manipulators</b>        | 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       |          |
| <b>margins</b>             | table    |
| F finalhandler             |          |
| F globalhandler            |          |
| F localhandler             |          |
| F save                     |          |
| <b>marksuspects</b>        | function |
| <b>paragraphs</b>          | table    |
| F addanchortoline          |          |
| F addtoline                |          |
| F calculatedelta           |          |
| F checkline                |          |
| F moveinline               |          |
| <b>periodkerns</b>         | table    |
| D factors                  |          |
| F handler                  |          |
| D mapping                  |          |
| F set                      |          |
| <b>processors</b>          | table    |
| F apply                    |          |
| F register                 |          |
| F reset                    |          |
| F split                    |          |
| F startapply               |          |
| F stopapply                |          |
| F stripped                 |          |
| F toString                 |          |
| <b>rubies</b>              | table    |
| F attach                   |          |
| F check                    |          |
| <b>showinvisibles</b>      | function |
| <b>showsuspects</b>        | function |
| <b>spacings</b>            | table    |
| F define                   |          |
| F handler                  |          |
| D mapping                  |          |
| T numbers                  |          |
| T frenchpunctuation        |          |
| T characters               |          |
| S name                     |          |
| N number                   |          |
| F reset                    |          |
| F set                      |          |
| F setup                    |          |
| <b>stacking</b>            | table    |
| F getindex                 |          |
| F getselection             |          |
| F handler                  |          |
| <b>swapping</b>            | table    |
| F handler                  |          |
| <b>synchronize</b>         | table    |
| F handler                  |          |
| <b>tighten</b>             | table    |
| F handler                  |          |
| <b>wrappers</b>            | table    |
| <b>xtables</b>             | 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 readcline  
F readcstring  
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

## **ghostscript**           table

F convert  
F statistics

## **graphicmagick**        table

F convert  
F statistics

## **graphicsmagick**      table

F convert  
F statistics

## **json**                  table

F load  
 F tojson  
 F tolua  
 F tostring  
**lua** **table**

B alwaysstripcode  
 F checkmemory  
 F compile  
 F loadedluacode  
 F loadstring  
 F loadstripped  
 N nofstrippedbytes  
 N nofstrippedchunks  
 F registerfinalizer  
 B stripcode  
 T strippedchunks  
 F strippedloadstring  
 T suffixes  
 S lmt  
 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\_list  
 T tablet  
 T settings\_to\_set  
 T min,max,fit,broad,auto  
 B auto  
 B broad  
 B fit  
 B max  
 B min  
 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 getrepeatable
- F getrepeatableseed
- F getseed
- F newrepeatable
- F popseed
- F pushseed
- F repeatable
- 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

## signals table

- S configuration
- F initialize
- F loadstate
- F report
- F savestate
- F serialclose
- F serialfast
- F serialopen
- S serialprefix
- F serialsend
- F serialwrite
- N version

## 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 readbyte
- F readbytes
- F readbytetable
- F readcardinal
- F readcardinal1
- F readcardinal11e
- F readcardinal2

- F readcardinal2le
- F readcardinal3
- F readcardinal3le
- F readcardinal4
- F readcardinal4le
- F readcardinaltable
- F readchar
- F readcline
- F readcstring
- 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 setposition
- F size
- F skip
- F skipbytes
- F skiplong
- F skipshort
- F tocardinal1
- F tocardinal1le
- F tocardinal2
- F tocardinal2le
- F tocardinal3
- F tocardinal3le
- F tocardinal4
- F tocardinal4le

**strings**                      table

- F collapse
- F collapseCrLf
- T formatters
  - F add
  - F new
- F newcollector

- F newrepeater
- F nice
- T striplinepatterns
  - U collapse
  - U collapse all
  - 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

**tar**                              table

- T archives
- F closearchive
- T files
  - F fetch
  - F hash
  - F list
  - F pack
  - F unpack
- F openarchive
- T registeredfiles
- T streams
  - F fetch
  - F hash
  - F list
  - F pack
  - F unpack
- T strings



|                  |       |                 |       |
|------------------|-------|-----------------|-------|
| F fetch          |       | <b>zipfiles</b> | table |
| F hash           |       | F close         |       |
| F list           |       | F found         |       |
| F pack           |       | F hash          |       |
| F unpack         |       | F list          |       |
| <b>templates</b> | table | F open          |       |
| F load           |       | F unzip         |       |
| F replace        |       | F unzipdir      |       |
| F replacer       |       | F zipdir        |       |
| F resolve        |       |                 |       |

## vector (context)

|                       |          |                    |          |
|-----------------------|----------|--------------------|----------|
| <b>add</b>            | function | <b>homogenize</b>  | function |
| <b>append</b>         | function | <b>identity</b>    | function |
| <b>average</b>        | function | <b>inner</b>       | function |
| <b>ceiling</b>        | function | <b>insert</b>      | function |
| <b>checkoverlap</b>   | function | <b>inverse</b>     | function |
| <b>collectoverlap</b> | function | <b>ismesh</b>      | function |
| <b>concat</b>         | function | <b>issingular</b>  | function |
| <b>contour</b>        | table    | <b>isvector</b>    | function |
| F average             |          | <b>iszero</b>      | function |
| F bounds              |          | <b>mesh</b>        | table    |
| F checkoverlap        |          | F get              |          |
| F collectoverlap      |          | F getdimensions    |          |
| F getarea             |          | F ismesh           |          |
| F getmesh             |          | F new              |          |
| F makemesh            |          | F set              |          |
| F overlapping         |          | F toString         |          |
| F show                |          | F totable          |          |
| F sort                |          | F type             |          |
| <b>copy</b>           | function | <b>meshname</b>    | function |
| <b>crossproduct</b>   | function | <b>mul</b>         | function |
| <b>delete</b>         | function | <b>negate</b>      | function |
| <b>determinant</b>    | function | <b>new</b>         | function |
| <b>div</b>            | function | <b>normalize</b>   | function |
| <b>equal</b>          | function | <b>onecolumn</b>   | function |
| <b>exchange</b>       | function | <b>onerow</b>      | function |
| <b>floor</b>          | function | <b>product</b>     | function |
| <b>get</b>            | function | <b>remove</b>      | function |
| <b>getdimensions</b>  | function | <b>replace</b>     | function |
| <b>getepsilon</b>     | function | <b>round</b>       | function |
| <b>getmesh</b>        | function | <b>rowechelon</b>  | function |
| <b>getrc</b>          | function | <b>set</b>         | function |
| <b>getrow</b>         | function | <b>setepsilon</b>  | function |
| <b>getstacking</b>    | function | <b>setnext</b>     | function |
| <b>gettype</b>        | function | <b>setrc</b>       | function |
| <b>helpers</b>        | table    | <b>setstacking</b> | function |
| F points              |          | <b>slice</b>       | function |
| F transform           |          | <b>sort</b>        | function |
| F xrotation           |          | <b>sub</b>         | function |
| F xyzscale            |          | <b>swap</b>        | function |
| F yrotation           |          | <b>toString</b>    | function |
| F zrotation           |          | <b>totable</b>     | function |

|                    |          |                 |          |
|--------------------|----------|-----------------|----------|
| <b>transpose</b>   | function | <b>truncate</b> | function |
| <b>triangulate</b> | function | <b>type</b>     | function |

## 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 | <b>erf</b>        | function |
| <b>__add</b>      | function | <b>erfc</b>       | function |
| <b>__div</b>      | function | <b>erfcx</b>      | function |
| <b>__eq</b>       | function | <b>erfi</b>       | function |
| <b>__mul</b>      | function | <b>exp</b>        | function |
| <b>__name</b>     | string   | <b>i</b>          | function |
| <b>__pow</b>      | function | <b>imag</b>       | function |
| <b>__sub</b>      | function | <b>log</b>        | function |
| <b>__tostring</b> | function | <b>new</b>        | function |
| <b>__unm</b>      | function | <b>pow</b>        | function |
| <b>abs</b>        | function | <b>proj</b>       | function |
| <b>acos</b>       | function | <b>real</b>       | function |
| <b>acosh</b>      | function | <b>sin</b>        | function |
| <b>arg</b>        | function | <b>sinh</b>       | function |
| <b>asin</b>       | function | <b>sqrt</b>       | function |
| <b>asinh</b>      | function | <b>tan</b>        | function |
| <b>atan</b>       | function | <b>tanh</b>       | function |
| <b>atanh</b>      | function | <b>topair</b>     | function |
| <b>conj</b>       | function | <b>tostring</b>   | function |
| <b>cos</b>        | function | <b>totable</b>    | function |
| <b>cosh</b>       | function | <b>voigt</b>      | function |
| <b>dawson</b>     | function | <b>voigt_hwhm</b> | function |

## xdecimal (extra lua)

|                   |          |                     |          |
|-------------------|----------|---------------------|----------|
| <b>__add</b>      | function | <b>bxor</b>         | function |
| <b>__band</b>     | function | <b>conj</b>         | function |
| <b>__bor</b>      | function | <b>copy</b>         | function |
| <b>__bxor</b>     | function | <b>exp</b>          | function |
| <b>__div</b>      | function | <b>getprecision</b> | function |
| <b>__eq</b>       | function | <b>ln</b>           | function |
| <b>__idiv</b>     | function | <b>log</b>          | function |
| <b>__le</b>       | function | <b>max</b>          | function |
| <b>__lt</b>       | function | <b>min</b>          | function |
| <b>__mod</b>      | function | <b>minus</b>        | function |
| <b>__mul</b>      | function | <b>new</b>          | function |
| <b>__name</b>     | string   | <b>plus</b>         | function |
| <b>__pow</b>      | function | <b>pow</b>          | function |
| <b>__shl</b>      | function | <b>rotate</b>       | function |
| <b>__shr</b>      | function | <b>setprecision</b> | function |
| <b>__sub</b>      | function | <b>shift</b>        | function |
| <b>__tostring</b> | function | <b>sqrt</b>         | function |
| <b>__unm</b>      | function | <b>toengstring</b>  | function |
| <b>abs</b>        | function | <b>tonumber</b>     | function |
| <b>band</b>       | function | <b>tostring</b>     | function |
| <b>bor</b>        | function | <b>trim</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 family               |            |
| <b>addspecialcode</b>     | function | F fontspecification    |            |
| <b>after</b>              | function | F mappedstylevalue     |            |
| <b>all</b>                | function | F padding              |            |
| <b>applylpath</b>         | function | F size                 |            |
| <b>applyselector</b>      | function | F style                |            |
| <b>assign</b>             | function | F stylevalue           |            |
| <b>attribute</b>          | function | F todimension          |            |
| <b>badinclusions</b>      | function | F variant              |            |
| <b>before</b>             | function | F weight               |            |
| <b>body</b>               | function | <b>defaulthandlers</b> | table      |
| <b>builtinentities</b>    | table    | D file                 |            |
| B amp                     |          | D parsedxml            |            |
| B apos                    |          | D string               |            |
| B gt                      |          | D tex                  |            |
| B lt                      |          | D texline              |            |
| B quot                    |          | D texspace             |            |
| <b>CDATA</b>              | function | D verbose              |            |
| <b>CDATATOTEXT</b>        | function | <b>defaultprotocol</b> | string     |
| <b>checkboxom</b>         | function | <b>delete</b>          | function   |
| <b>checkedempty</b>       | function | <b>delete_element</b>  | function   |
| <b>checkerror</b>         | function | <b>despecialized</b>   | function   |
| <b>checknamespace</b>     | function | <b>each</b>            | function   |
| <b>checkns</b>            | function | <b>each_element</b>    | function   |
| <b>cleansed</b>           | function | <b>elements</b>        | function   |
| <b>collect</b>            | function | <b>elementtocdata</b>  | function   |
| <b>collect_elements</b>   | function | <b>empty</b>           | function   |
| <b>collect_tags</b>       | function | <b>entities</b>        | data table |
| <b>collect_texts</b>      | function | <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>expand</b>          | function   |
| <b>content</b>            | function | <b>expressions</b>     | table      |
| <b>convert</b>            | function | F attribute            |            |
| <b>copy</b>               | function | F boolean              |            |
| <b>count</b>              | function | F child                |            |
| <b>cprint</b>             | function | F contains             |            |
| <b>CSS</b>                | table    | F count                |            |
| F applyselector           |          | F error                |            |
| F colorspecification      |          | F find                 |            |
| F dimension               |          | F hasclass             |            |



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

|                              |          |                            |            |
|------------------------------|----------|----------------------------|------------|
| <b>include</b>               | function | F tex                      |            |
| <b>inclusion</b>             | function | <b>placeholders</b>        | table      |
| <b>inclusions</b>            | function | F unknown_any_entity       |            |
| <b>index</b>                 | function | F unknown_dec_entity       |            |
| <b>inheritattributes</b>     | function | F unknown_hex_entity       |            |
| <b>inheritedconvert</b>      | function | <b>popmatch</b>            | function   |
| <b>inject</b>                | function | <b>position</b>            | function   |
| <b>inject_element</b>        | function | <b>privatecodes</b>        | data table |
| <b>inject_element_after</b>  | function | <b>privatetoken</b>        | function   |
| <b>inject_element_before</b> | function | <b>process</b>             | function   |
| <b>injectafter</b>           | function | <b>process_attributes</b>  | function   |
| <b>injectbefore</b>          | function | <b>process_elements</b>    | function   |
| <b>insert</b>                | function | <b>processattributes</b>   | function   |
| <b>insert_element</b>        | function | <b>profiled</b>            | table      |
| <b>insert_element_after</b>  | function | <b>pure</b>                | function   |
| <b>insert_element_before</b> | function | <b>pushmatch</b>           | function   |
| <b>insertafter</b>           | function | <b>raw</b>                 | function   |
| <b>insertbefore</b>          | function | <b>registerentity</b>      | function   |
| <b>insertcdata</b>           | function | <b>registerns</b>          | function   |
| <b>insertcomment</b>         | function | <b>reindex</b>             | function   |
| <b>inspect</b>               | function | <b>remap_name</b>          | function   |
| <b>is_valid</b>              | function | <b>remap_namespace</b>     | function   |
| <b>kind</b>                  | function | <b>remap_tag</b>           | function   |
| <b>last</b>                  | function | <b>remapname</b>           | function   |
| <b>lastmatch</b>             | function | <b>remapnamespace</b>      | function   |
| <b>load</b>                  | function | <b>remaptag</b>            | function   |
| <b>lpath</b>                 | function | <b>rename</b>              | function   |
| <b>lpathcached</b>           | function | <b>renamespace</b>         | function   |
| <b>lpathcalls</b>            | function | <b>reparsedentitylpeg</b>  | userdata   |
| <b>lshow</b>                 | function | <b>replace</b>             | function   |
| <b>makestandalone</b>        | function | <b>replace_element</b>     | function   |
| <b>match</b>                 | function | <b>resetinjectors</b>      | function   |
| <b>mml</b>                   | table    | <b>resolvns</b>            | function   |
| F stripped                   |          | <b>root</b>                | function   |
| F verbose                    |          | <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   |

|                           |            |                            |          |
|---------------------------|------------|----------------------------|----------|
| <b>settings</b>           | function   | <b>tostring</b>            | function |
| <b>specialcodes</b>       | data table | <b>totable</b>             | function |
| <b>specialhandler</b>     | table      | <b>toxml</b>               | function |
| <b>sprint</b>             | function   | <b>tprint</b>              | function |
| <b>string</b>             | function   | <b>traverse</b>            | function |
| <b>strip</b>              | function   | <b>unescaped</b>           | function |
| <b>strip_whitespace</b>   | function   | <b>unescapedentitylpeg</b> | userdata |
| <b>stripelement</b>       | function   | <b>unprivatized</b>        | function |
| <b>stripleadingspaces</b> | function   | <b>unspecialized</b>       | function |
| <b>table</b>              | function   | <b>wipe</b>                | function |
| <b>text</b>               | function   | <b>withelement</b>         | function |
| <b>textonly</b>           | function   | <b>withelements</b>        | function |
| <b>texttocdata</b>        | function   | <b>wrap</b>                | function |
| <b>tocdata</b>            | function   | <b>xmlns</b>               | table    |
| <b>toelement</b>          | function   |                            |          |

## xzip (extra lua)

**adler32**            function

**compress**        function

**compresssize**    function

**crc32**            function

**decompress**      function

**decompresssize** function

## zip (context)

**archives**  
**closearchive**

table  
function

**openarchive**  
**registeredfiles**

function  
table

## zlib (context)

|                     |          |
|---------------------|----------|
| <b>adler32</b>      | function |
| <b>compress</b>     | function |
| <b>compresssize</b> | function |

|                       |          |
|-----------------------|----------|
| <b>crc32</b>          | function |
| <b>decompress</b>     | function |
| <b>decompresssize</b> | function |