MP attributes backends bit bit32 blobs boolean buffers builders caches callbacks catcodes characters chemistry commands containers context converters coroutine ctxrunner debug dir directives document documentdata environment epdf experiments figures file floats fontloader fonts functions global graphics gzip imm interactions interfaces io jit job languages layouts lfs libraries lmx logs lpdf lpeg ltn12 lua luatex lxml math mathematics mbox md5 metapost mime moduledata modules mp mplib noads mode nodes number objects os package pagebuilders parametersets pdf pdfscanner physics profiler publications regimes resolvers sandbox scripts set socket sorters statistics **status** storage streams string structures table t thirddata tokens tracers trackers typesetters unicode url userdata utilities vf visualizers xml zip zlib

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

# global (alias: \_G)

| LUATEXVERSION  | number   | floats       | table    |
|----------------|----------|--------------|----------|
| MP             | table    | font         | table    |
| _LUAVERSION    | number   | fontloader   | table    |
| _MAJORVERSION  | number   | fonts        | table    |
| _MINORVERSION  | number   | frozen       | boolean  |
| arg            | table    | functions    | table    |
| assert         | function | gcinfo       | function |
| attributes     | table    | getfenv      | function |
| backends       | table    | getmetatable | function |
| bit            | table    | getpos       | function |
| bit32          | table    | getvpos      | function |
| blobs          | table    | global       | table    |
| boolean        | table    | graphics     | table    |
| buffers        | table    | gzip         | table    |
| builders       | table    | img          | table    |
| caches         | table    | inspect      | function |
| callback       | table    | interactions | table    |
| callbacks      | table    | interfaces   | table    |
| catcodes       | table    | io           | table    |
| characters     | table    | ipairs       | function |
| chemistry      | table    | jit          | table    |
| collectgarbage | function | job          | table    |
| commands       | table    | lang         | table    |
| containers     | table    | languages    | table    |
| context        | function | layouts      | table    |
| converters     | table    | lfs          | table    |
| coroutine      | table    | libraries    | table    |
| ctxrunner      | table    | lmx          | table    |
| debug          | table    | load         | function |
| dimen          | function | loadfile     | function |
| dir            | table    | loadstring   | function |
| directives     | table    | logs         | table    |
| document       | table    | lpdf         | table    |
| documentdata   | table    | lpeg         | table    |
| dofile         | function | ltn12        | table    |
| environment    | table    | lua          | table    |
| epdf           | table    | luatex       | table    |
| error          | function | lxml         | table    |
| experiments    | table    | math         | table    |
| figures        | table    | mathematics  | table    |
| file           | table    | mbox         | table    |
|                |          |              |          |

| md5             | table    | scripts      | table    |
|-----------------|----------|--------------|----------|
| metapost        | table    | select       | function |
| mime<br>        | table    | set          | table    |
| module          | function | setfenv      | function |
| moduledata      | table    | setinspector | function |
| modules         | table    | setmetatable | function |
| mp              | function | socket       | table    |
| mplib           | table    | sorters      | table    |
| newproxy        | function | statistics   | table    |
| next            | function | status       | table    |
| noads           | table    | storage      | table    |
| node            | table    | streams      | table    |
| nodes           | table    | string       | table    |
| number          | table    | structures   | table    |
| objects         | table    | swiglib      | function |
| optionalrequire | function | table        | table    |
| os              | table    | tex          | table    |
| package         | table    | texconfig    | table    |
| pagebuilders    | table    | texio        | table    |
| pairs           | function | thirddata    | table    |
| parametersets   | table    | toboolean    | function |
| pcall           | function | tokens       | table    |
| pdf             | table    | tonumber     | function |
| pdfboolean      | function | tostring     | function |
| pdfnull         | function | tracers      | table    |
| pdfreference    | function | trackers     | table    |
| pdfscanner      | table    | type         | function |
| pdfverbose      | function | typesetters  | table    |
| physics         | table    | unicode      | table    |
| print           | function | unpack       | function |
| profiler        | table    | url          | table    |
| publications    | table    | userdata     | table    |
| rawequal        | function | utf          | table    |
| rawget          | function | utilities    | table    |
| rawlen          | function | vf           | table    |
| rawset          | function | visualizers  | table    |
| regimes         | table    | xml          | table    |
| require         | function | xpcall       | function |
| resolvers       | table    | zip          | table    |
| sandbox         | table    | zlib         | table    |

## attributes (context)

| colorintents table        | [ montions      |                   |  |
|---------------------------|-----------------|-------------------|--|
|                           | F mpoptions     |                   |  |
| N attribute               | U none          |                   |  |
| D data                    | F popset        |                   |  |
| F enable                  | F processcoloro | omponents         |  |
| F handler                 | F pushset       |                   |  |
| F register                | F register      |                   |  |
| D registered              | D registered    |                   |  |
| colors table              | F registerspoto | olor              |  |
| N attribute               | F rgb           |                   |  |
| F cmyk                    | F rgbtocmyk     |                   |  |
| F cmyktogray              | F rgbtogray     |                   |  |
| F cmyktorgb               | F rgbtohsv      |                   |  |
| F colorcomponents         | N selector      |                   |  |
| B couple                  | F setlist       |                   |  |
| D data                    | F setmodel      |                   |  |
| N default                 | F setpagecolorm | odel              |  |
| F defineintermediatecolor | D sets          |                   |  |
| F definemultitonecolor    | F spec          |                   |  |
| F defineprocesscolor      | F spot          |                   |  |
| F definesimplegray        | F spotcolorname |                   |  |
| F definespotcolor         |                 | F spotcolorparent |  |
| F definetransparency      | F spotcolorvalu | e                 |  |
| F enable                  | B supported     |                   |  |
| F filter                  | F transparencyc | omponents         |  |
| F forcedmodel             | B triggering    |                   |  |
| F forcesupport            | F usecolors     |                   |  |
| F formatcolor             | F value         |                   |  |
| F formatgray              | D values        |                   |  |
| F getpagecolormodel       | B weightgray    |                   |  |
| F gray                    | define          | function          |  |
| F graytohsv               | effects         | table             |  |
| F handler                 | N attribute     |                   |  |
| F hsvtogray               | D data          |                   |  |
| F hsvtorgb                | F enable        |                   |  |
| F iccprofile              | F handler       |                   |  |
| F isblack                 | F register      |                   |  |
| N main                    | D registered    |                   |  |
| S model                   | D values        |                   |  |
| D models                  | handlers        | table             |  |
| F mpcolor                 | list            | data table        |  |
| F mpnamedcolor            | names           | data table        |  |

| negatives        | table      | U none                    |  |
|------------------|------------|---------------------------|--|
| N attribute      |            | F register                |  |
| D data           |            | D registered              |  |
| F enable         |            | B supported               |  |
| F handler        |            | B triggering              |  |
| F register       |            | F value                   |  |
| D registered     |            | D values                  |  |
| F set            |            | <b>unsetvalue</b> number  |  |
| numbers          | data table | <b>viewerlayers</b> table |  |
| ofnode           | function   | N attribute               |  |
| private          | function   | F cleanup                 |  |
| public           | function   | D data                    |  |
| restore          | function   | F define                  |  |
| save             | function   | F definedlayoutcomponent  |  |
| showcurrent      | function   | F enable                  |  |
| states           | table      | F forcesupport            |  |
| F disabletrigger | ring       | F handler                 |  |
| F enabletriggeri | .ng        | B hasorder                |  |
| F finalize       |            | D listwise                |  |
| F initialize     |            | F register                |  |
| F process        |            | D registered              |  |
| F selective      |            | F resolve_begin           |  |
| F stacked        |            | F resolve_end             |  |
| F stacker        |            | F resolve_reset           |  |
| system           | function   | F resolve_step            |  |
| transparencies   | table      | D scopes                  |  |
| N attribute      |            | F setfeatures             |  |
| D data           |            | F start                   |  |
| F enable         |            | F stop                    |  |

F forcesupport

F handler

B supported

D values

#### backends (context)

F getpos

codeinjections table F getpreviewfigure F boxresourcedimensions F getypos F hasmatrix F registerboxresource F restoreboxresource F insertrenderingwindow current strina F mergebookmarks defaults table F mergereferences T codeiniections F mergeviewerlayers F prerollreference F gethpos F presetsymbol F getmatrix F getpos F presetsymbollist F aetypos F processrendering F hasmatrix F registerdocumentcloseaction T nodeinjections F registerdocumentopenaction T registrations F registeredsymbol D tables F registerpagecloseaction install function F registerpageopenaction nodeinjections table F registersymbol F restore F setfieldcalculationset F save F setfigurealternative F transform F setfigurecolorspace nothina function F setfiguremask pdf table F setformat T codeiniections F setformsmethod F addbookmarks F setpagetransition F attachmentid F setupcanvas F clonefield F setupidentity F definefield F setxmpfile F definefieldset F startlaver F defineviewerlaver F startunicodetoactualtext F embedfile F stoplayer F enabletags F stopunicodetoactualtext F exportformdata F supportedformats F getbookmarks F unicodetoactualtext F getdefaultfieldvalue F useviewerlayer F getfieldcategory F validfield F getfieldset F validfieldcategory F getformatoption F validfieldset S comment F gethpos F getmatrix T nodeinjections F getoutputfilename F addtags

F annotation

F attachfile

F changestackedlayer
F cmykcolor

F comment
F destination

F effect
F graycolor
F injectbitmap

F insertmovie
F insertsound
F insertswf
F insertu3d

F insertu3d
F knockout
F negative
F overprint

F positive F reference

F rgbcolor
F spotcolor
F startlayer

F startstackedlayer

F stoplayer

F stopstackedlayer
F transparency
F typesetfield
T registrations
F cmykindexcolor

F cmykspotcolor

 ${\tt F} \ {\tt getspotcolorreference}$ 

F grayindexcolor F grayspotcolor F rgbindexcolor F rgbspotcolor F spotcolorname F transparency

T tables

D vfspecials

registrations table
tables table

# bit (context)

| arshift | function | lshift | function |
|---------|----------|--------|----------|
| band    | function | rol    | function |
| bnot    | function | ror    | function |
| bor     | function | rshift | function |
| bswap   | function | tobit  | function |
| bxor    | function | tohex  | function |

## bit32 (basic lua)

| arshift | function | extract | function |
|---------|----------|---------|----------|
| band    | function | lrotate | function |
| bnot    | function | lshift  | function |
| bor     | function | replace | function |
| btest   | function | rrotate | function |
| bxor    | function | rshift  | function |

## blobs (context)

| append     | function | strht   | function |
|------------|----------|---------|----------|
| dimensions | function | strwd   | function |
| dispose    | function | tohpack | function |
| new        | function | tonodes | function |
| pack       | function | tovpack | function |
| strdp      | function | write   | function |
| strhd      | function |         |          |

## boolean (context)

tocontext function
tonumber function

## buffers (context)

| append         | function | F define         |          |
|----------------|----------|------------------|----------|
| assign         | function | F hassomecontent |          |
| collectcontent | function | F next           |          |
| erase          | function | F place          |          |
| exists         | function | F reset          |          |
| getcontent     | function | F save           |          |
| getlines       | function | prepend          | function |
| loadcontent    | function | raw              | function |
| parallel       | table    | undent           | function |

## builders (context)

| kernel    | table          | T registered           |
|-----------|----------------|------------------------|
| F hyphen  | ation          | F reset                |
| F kernin  | g              | F set                  |
| F ligatu  | ring           | F split                |
| F mlist_  | to_hlist       | F start                |
| T origina | als            | F stop                 |
| F hyphe   | enate          | F tag                  |
| F kerni   | ing            | <b>profiling</b> table |
| F ligat   | turing         | F add                  |
| paragraph | <b>s</b> table | F distance             |
| T constr  | uctors         | F fixedprofile         |
| N attri   | ibute          | F get                  |
| F defir   | ne             | F list                 |
| F disab   | ole            | F pagehandler          |
| F enabl   | Le             | F profilebox           |
| F handl   | ler            | F set                  |
| T metho   | ods            | <b>vspacing</b> table  |
| F bas     | ic             | F analyze              |
| F def     | ault           | D categories           |
| F hpa     | ck             | F collapsevbox         |
| F one     | line           | T data                 |
| D names   | 5              | D map                  |
| D numbe   | ers            | D skip                 |
| F set     |                | D snapmethods          |
| F start   | t              | F definesnapmethod     |
| F stop    |                | B fixed                |
| T expans  | ion            | F pagehandler          |
| F trace   | 2              | F resetprevdepth       |
| F keepto  | gether         | F setmap               |
| F regist  | ertogether     | F setskip              |
| T soluti  | ons            | F snapbox              |
| T split   | tters          | F tocategories         |
| F def     | ine            | F tocategory           |
| F opt     | imize          | F vboxhandler          |

## caches (context)

| ask   | boolean  | hashed               | function |
|---|----------|----------------------|----------|
| base  | string   | is_writable          | function |
| collapsecontent                               | function | loadcontent          | function |
| configfiles                                   | function | loaddata             | function |
| contentstate                                  | function | more                 | string   |
| defaults                                      | table    | relocate             | boolean  |
| define  | function | savecontent          | function |
| direct  | boolean  | savedata             | function |
| force   | boolean  | setfirstwritablefile | function |
| getfirstreadablefile                          | function | setluanames          | function |
| <pre>getfirstreadablefile_TEST_ME_FIRST</pre> | function | tree                 | string   |
| getreadablepaths                              | function | treehash             | function |
| getwritablepath                               | function | usedpaths            | function |

#### callback (basic tex)

find function
list function

register overloaded function

#### callbacks (context)

freeze function
known function
list data table
pop function

push function
register function
report function

#### catcodes (context)

names data table
numbers data table

register function

## characters (context)

| +                         |                    | 1 i nah naaka | 4-61- |
|---------------------------|--------------------|---------------|-------|
| activeoffset<br>adobename | number<br>function | linebreaks    | table |
| bidi                      | data table         | S ai<br>S al  |       |
| blockrange                | function           | S at          |       |
| blocks                    | data table         | - <del></del> |       |
|                           | table              | S ba          |       |
| casemap                   | 20020              | S bb          |       |
| categories                | data table         | S bk          |       |
| category                  | function           | S cb          |       |
| categorytags              | data table         | S cj          |       |
| collapsed                 | data table         | S cl          |       |
| contextname               | function           | S cm          |       |
| csletters                 | data table         | S cp          |       |
| data                      | data table         | S cr          |       |
| decomposed                | data table         | S ex          |       |
| description               | function           | S gl          |       |
| descriptions              | data table         | S h2          |       |
| detailtags                | data table         | S h3          |       |
| directions                | table              | S hl          |       |
| enccodes                  | data table         | S hy          |       |
| entities                  | data table         | S id          |       |
| fallbacks                 | data table         | S in          |       |
| filters                   | data table         | S is          |       |
| fractions                 | table              | S jl          |       |
| fromnumber                | function           | S jt          |       |
| fschars                   | data table         | S jv          |       |
| fscodes                   | data table         | S lf          |       |
| getrange                  | function           | S nl          |       |
| graphemes                 | data table         | S ns          |       |
| hangul                    | data table         | S nu          |       |
| initialize                | function           | S op          |       |
| is_character              | data table         | S po          |       |
| is_command                | data table         | S pr          |       |
| is_letter                 | data table         | S qu          |       |
| is_mark                   | data table         | S ri          |       |
| is_punctuation            | data table         | S sa          |       |
| is_spacing                | data table         | S sg          |       |
| lcchars                   | data table         | S sp          |       |
| lccode                    | function           | S sy          |       |
| lccodes                   | data table         | S wj          |       |
| lettered                  | function           | S xx          |       |
| lhash                     | data table         | S zw          |       |
|                           |                    |               |       |

lower function math table mathpairs data table mirrors table otfscripts data table ranges data table registerentities function remap hangul syllabe function setactivecatcodes function setlettercatcodes function shape function shaped function data table shash shchars data table shcodes data table showstring function **specialchars** data table data table specials splits table

r compat

subscripts table

superscripts table

synonyms data table

tex table

D accentmapping
D commandmapping
F defineaccents
F safechar
F toutf

F toutfpattern textclasses table tonumber function ucchars data table uccode function uccodes data table uhash data table unicodechar function function upper

T char

#### chemistry (context)

| component      | function   |
|----------------|------------|
| define         | function   |
| definitions    | data table |
| format         | string     |
| inlinechemical | function   |
| instance       | string     |
| method         | string     |

molecule
moleculeparser
start
stop
structures
undefine
function
function
number
function

## containers (context)

| cleanname | function | is_valid | function |
|-----------|----------|----------|----------|
| content   | function | read     | function |
| define    | function | usecache | boolean  |
| is_usable | function | write    | function |

#### converters (context)

| A                  | function | isleapyear        | function   |
|--------------------|----------|-------------------|------------|
| A:es               | function | lchexnumber       | function   |
| AK                 | function | lchexnumbers      | function   |
| Alphabetic         | function | leapyear          | function   |
| Alphabetic:es      | function | lower             | function   |
| Character          | function | max               | function   |
| Characters         | function | maxchrs           | function   |
| I                  | function | minute            | function   |
| KA                 | function | month             | function   |
| KR                 | function | nicenumber        | function   |
| R                  | function | nofdays           | function   |
| RK                 | function | number            | function   |
| Romannumerals      | function | numbers           | function   |
| Sloviannumerals    | function | octnumber         | function   |
| Spanishnumerals    | function | octstringtonumber | function   |
| Word               | function | ordinal           | function   |
| Words              | function | r                 | function   |
| a                  | function | rawcharacter      | function   |
| a:es               | function | romannumerals     | function   |
| abjadnodotnumerals | function | second            | function   |
| abjadnumerals      | function | sequences         | data table |
| alphabetic         | function | settime           | function   |
| alphabetic:es      | function | sloviannumerals   | function   |
| character          | function | spanishnumerals   | function   |
| characters         | function | textime           | function   |
| chineseallnumerals | function | toabjad           | function   |
| chinesecapnumerals | function | tochinese         | function   |
| chinesenumerals    | function | toroman           | function   |
| chr                | function | totime            | function   |
| chrs               | function | uchexnumber       | function   |
| cn                 | function | uchexnumbers      | function   |
| cn-a               | function | upper             | function   |
| cn-c               | function | verbose           | table      |
| convert            | function | D data            |            |
| decimals           | function | F translate       |            |
| define             | function | weekday           | function   |
| hexstringtonumber  | function | word              | function   |
| hour               | function | words             | function   |
| i                  | function | year              | function   |
|                    |          |                   |            |

## coroutine (basic lua)

| create  | function | status | function |
|---------|----------|--------|----------|
| resume  | function | wrap   | function |
| running | function | yield  | function |

#### ctxrunner (context)

load function prepfiles data table
preparedfile function resolve function

# debug (basic lua)

| debug        | function | setfenv      | function |
|--------------|----------|--------------|----------|
| getfenv      | function | sethook      | function |
| gethook      | function | setlocal     | function |
| getinfo      | function | setmetatable | function |
| getlocal     | function | setupvalue   | function |
| getmetatable | function | setuservalue | function |
| getregistry  | function | traceback    | function |
| getupvalue   | function | upvalueid    | function |
| getuservalue | function | upvaluejoin  | function |

# dir (context)

| collectpattern | function | globpattern | function |
|----------------|----------|-------------|----------|
| current        | function | ls          | function |
| expandname     | function | makedirs    | function |
| found          | function | mkdirs      | function |
| glob           | function | pop         | function |
| globfiles      | function | push        | function |

## directives (context)

| data    | data table | name     | string   |
|---------|------------|----------|----------|
| default | function   | register | function |
| disable | function   | report   | function |
| done    | table      | reset    | function |
| enable  | function   | show     | function |
| list    | function   | value    | function |

#### document (context)

arguments files **functions** getargument getfilename options

data table table table function function table

D modules

D modes

function setargument setcommandline function setdefaultargument function setenvironments function setfilename function setfilenames function setmodes function setmodules function variables data table

D environments D modes D modules

T ctxfile

T commandline

D environments

## environment (context)

| argument            | function   | luafile                | function   |
|---------------------|------------|------------------------|------------|
| arguments           | data table | luafilechunk           | function   |
| basicengines        | data table | maxnofruns             | number     |
| currentrun          | number     | originalarguments      | data table |
| default_texmfcnf    | string     | outputfilename         | string     |
| definefilefallback  | function   | ownbin                 | string     |
| definefilesynonym   | function   | ownmain                | string     |
| engineflags         | data table | ownname                | string     |
| filename            | string     | ownpath                | string     |
| files               | table      | prerollrun             | boolean    |
| filesynonyms        | data table | rawarguments           | data table |
| forcedruns          | number     | reconstructcommandline | function   |
| getargument         | function   | relativepath           | function   |
| homedir             | string     | setargument            | function   |
| initex              | boolean    | splitarguments         | function   |
| initializearguments | function   | suffix                 | string     |
| initializefilenames | function   | texfile                | function   |
| inputfilebarename   | string     | texmfos                | string     |
| inputfilename       | string     | texos                  | string     |
| inputfilesuffix     | string     | texroot                | string     |
| jobfilename         | string     | truefilename           | function   |
| jobfilesuffix       | string     | useluamodule           | function   |
| jobname             | string     | usemodules             | function   |
| kindofrun           | number     | validengines           | data table |
| loadexamodes        | function   | version                | string     |
| loadluafile         | function   |                        |            |
|                     |            |                        |            |

#### epdf (extra tex)

Array function
Attribute function
AttributeOwner\_Type function
Attribute\_Type function
Dict function
Object function

PDFRectangle
StructElement\_Type
open
openMemStream

type

function function overloaded function function function

#### experiments (context)

| data    | data table |
|---------|------------|
| default | function   |
| disable | function   |
| enable  | function   |
| list    | function   |
| name    | strina     |

register function report function reset function show function value function

#### figures (context)

applvratio badname bases bitmapimage boxnumber cachepaths check checkers converters current defaultdepth defaultheight defaultsearch defaultwidth done dummy existers exists formats found get getrealpage auess hash identifiers identify images

F boxes F check F checksize F clone F copy F immediatewrite F keys

F new F node function function data table function number data table function data table data table function number number hool ean number function function data table function data table data table function function function function data table function

table

F ofindex F package F print F scan F serialize F totable F types F write include includers initialize

function data table loaded localpaths magics mergegoodies nofprocessed order paths patterns pop preferquality programs push registerpattern registerresource registersuffix resources scale set setlookups setmemstream setorder setpaths suffixes used data table

function data table data table data table function number data table data table data table function boolean data table function function function function data table function function function function function function data table

#### file (basic lua)

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

## floats (context)

| analysemethod            | function | nofstacked | function |
|--------------------------|----------|------------|----------|
| ${\it checkedpagefloat}$ | function | pop        | function |
| collect                  | function | push       | function |
| consult                  | function | resave     | function |
| flush                    | function | save       | function |
| getvariable              | function | stacked    | function |
| hasstacked               | function |            |          |

#### font (basic tex)

current function
define function
each function
fonts table
frozen function

getfont overloaded function

id function
max function
nextid function
read\_tfm function
read\_vf function

setfont overloaded function

#### fontloader (extra tex)

apply\_afmfile function
apply\_featurefile function
close function
fields function
fullinfo function

info
open
to\_table
totable

overloaded function
overloaded function
function

## fonts (context)

| analyzers         | table | F | checkenabled       |        |
|-------------------|-------|---|--------------------|--------|
| T features        |       |   | clonevector        |        |
| N blwf            |       |   | define             |        |
| N fin2            |       |   | definitions        |        |
| N fin3            |       |   | found              |        |
| N fina            |       |   | prepare            |        |
| N half            |       |   | process            |        |
| N init            |       |   | registermain       |        |
| N isol            |       |   | report             |        |
| N med2            |       |   | reset              |        |
| N medi            |       |   | vectors            |        |
| N pref            | co    |   | tructors           | table  |
| N pstf            |       | F | addcoreunicodes    |        |
| N rphf            |       | F | aftercopyingchara  | cters  |
| D initializers    |       |   | applymanipulators  |        |
| D methods         |       |   | assignmathparamete | ers    |
| F setstate        |       |   | autocleanup        |        |
| T states          |       | F | beforecopyingchara | acters |
| N blwf            |       |   | cache              |        |
| N fin2            |       | В | cacheintex         |        |
| N fin3            |       | F | calculatescale     |        |
| N fina            |       | F | checkedfeatures    |        |
| N half            |       | F | checkedfilename    |        |
| N init            |       | F | checkvirtualids    |        |
| N isol            |       | F | cleanuptable       |        |
| N mark            |       | F | collectprocessors  |        |
| N med2            |       | F | currentfonthasfea  | ture   |
| N medi            |       | D | designsizes        |        |
| N pref            |       | D | dontembed          |        |
| N pstf            |       | F | enhanceparameters  |        |
| N rest            |       | N | factor             |        |
| N rphf            |       | Т | features           |        |
| B useunicodemarks |       |   | D afm              |        |
| checkers          | table |   | D otf              |        |
| F getmissing      |       |   | D tfm              |        |
| F missing         |       | F | finalize           |        |
| F placeholder     |       | F | getfeatureaction   |        |
| cid               | table | Т | handlers           |        |
| F getmap          |       |   | T afm              |        |
| F loadfile        |       |   | B autoprefixed     |        |
| collections       | table |   | D cache            |        |

| D features             | T handlers  |
|------------------------|---|
|                        |   |
| F getkern              | F devanagari_remove_joiners                         |
| T helpdata             | F devanagari_reorder_matras                         |
| D bothkerned           | F devanagari_reorder_pre_base_reordering_consonants |
| D leftkerned           | F devanagari_reorder_reph                           |
| D ligatures            | F gpos_context                                      |
| D rightkerned          | F gpos_contextchain                                 |
| D texligatures         | F gpos_cursive                                      |
| F load                 | F gpos_mark2base                                    |
| T readers              | F gpos_mark2ligature                                |
| F getinfo              | F gpos_mark2mark                                    |
| F loadfont             | F gpos_pair   |
| F setfeatures          | F gpos_single                                       |
| B syncspace            | F gsub_alternate                                    |
| N version              | F gsub_context                                      |
| T otf                  | F gsub_contextchain                                 |
| F addfeature           | F gsub_ligature                                     |
| F basemodeinitializer  | F gsub_multiple                                     |
| D cache                | F gsub_reversecontextchain                          |
| F collectlookups       | F gsub_single                                       |
| T coverup              | F trigger_space_kerns                               |
| T actions              | F load  |
| F alternate            | F nodemodeinitializer                               |
| F chainposition        | F packoutlines                                      |
| F chainsubstitution    | D pdfcache  |
| F kern                 | T readers   |
| F ligature             | F addunicodetable                                   |
| F multiple             | D cache   |
| F pair                 | F cff   |
| F substitution         | F checkhash   |
| F register             | F cmap  |
| S stepkey              | F colr  |
| F dataset              | F compact   |
| S defaultbasealternate | F cpal  |
| S defaultnodealternate | F expand  |
| D enhancers            | F extend  |
| D features             | F gdef  |
| F featuresprocessor    | F getcomponents                                     |
| F getactualtext        | F getinfo   |
| F getalternate         | F glyf  |
| F getgsub              | F gpos  |
| F getkern              | F gsub  |
| F getmultiple          | F head  |
|                        |   |
| F getsubstitution      | F hhea  |

| F hmtx              | F setdynamics        |
|---------------------|----------------------|
| F kern              | F setfeatures        |
| F loadfont          | T statistics         |
| F loadshapes        | D usedfeatures       |
| F loca              | T svg                |
| F math              | F storepdfdata       |
| F maxp              | F topdf              |
| F name              | D svgcache           |
| F os/2              | B svgenabled         |
| F pack              | T tables             |
| F post              | D baselines          |
| F registerextender  | D features           |
| F rehash            | D featuretypes       |
| T streamreader      | D languages          |
| F close             | D scripts            |
| F getposition       | F unpackoutlines     |
| F look              | N version            |
| F open              | T pfb                |
| F read2dot14        | T tfm                |
| F readbyte          | D features           |
| F readbytes         | N maxnestingdepth    |
| F readcardinal      | N maxnestingsize     |
| F readcardinal1     | F setfeatures        |
| F readcardinal2     | N version            |
| F readcardinal3     | T vf                 |
| F readcardinal4     | T combinations       |
| F readchar          | F combine            |
| F readfixed4        | T combiner           |
| F readinteger       | D commands           |
| F readintegerl      | D helpers            |
| F readinteger2      | D math               |
| F readinteger4      | D predefined         |
| F readstring        | N version            |
| F readtag           | D whatever           |
| F setposition       | F hashfeatures       |
| F size              | F hashinstance       |
| F skip              | T hashmethods        |
| F skiplong          | F normal             |
| F skipshort         | F virtual            |
| F svg               | F initializefeatures |
| N tableversion      | T keys               |
| F unpack            | T character          |
| N version           | S depth              |
| F scriptandlanguage | S height             |
|                     |                      |

S italic S spacestretch S width S x\_height T description S units S vfactor T boundingbox S depth S xheight S height T properties S width S autoitalicamount T parameters T cidinfo S ascender S embedding S descender S encodingbytes S filename S designsize S finalized T expansion S auto S fontname S shrink S format S fullname S step S stretch S hasitalics S extendfactor S hasmath S factor S mathitalics S hfactor S mode S mathsize S name T protrusion S noglyphnames S auto S nostackmath S guad S psname S scaledpoints S textitalics S scriptpercentage S virtualized D loadedfonts S scriptscriptpercentage S size S namemode N noffontsloaded S slantfactor S slantperpoint N nofsharedfonts N nofsharedhashes T spacing N nofsharedvectors S extra S shrink N privateoffset S stretch D privateslots S width F readanddefine F registerfeature T synonyms S em F resetfeature B resolvevirtualtoo S ex F scale S extra\_space S extraspace F scaled S slant F setfactor S space F setfeature S space\_shrink F setname B sharefonts S space stretch S spaceshrink F trytosharefont

N version N Ecvrillic current function N Edot currentid function N Efcyrillic table definers N Elcyrillic F addlookup N Emcyrillic F analyze N Encyrillic F applypostprocessors N Ercvrillic F checkedmode N Ereversedcvrillic F checkedscript N Escyrillic F current N Fitacyrillic S defaultlookup N Gcedilla F define N Gdot F getspecification N Gecyrillic F internal N Gheupturncyrillic F loadfont N Gjecyrillic F makespecification N Hardsigncyrillic T methods N IAcyrillic F install N IUcyrillic D variants N Icyrillic F read N Idot F register N Iecvrillic F registered N Iicyrillic F registersplit N Iishortcyrillic F resetnullfont N Iocyrillic F resolve N Izhitsacyrillic T resolvers N Jecyrillic F file N Kacyrillic F name N Kcedilla F spec N Khacyrillic definetypeface function N Kjecyrillic encodings table N Lcedilla T agl N Ljecyrillic D ctxcodes N Ncedilla N Njecyrillic D extras D names N Ocyrillic T synonyms N Odblacute N Ohm N Acyrillic N Becyrillic N Pecyrillic N Cdot N Rcedilla N Checyrillic N Shacyrillic N Decyrillic N Shchacyrillic N Djecyrillic N Softsigncyrillic N Dzecyrillic N Tcedilla N Dzhecyrillic N Tecyrillic

N Tsecvrillic N dalethatafsegol N Tshecyrillic N dalethatafsegolhebrew N Ucyrillic N dalethebrew N Udblacute N dalethiria N Ushortcyrillic N dalethirighebrew N Vecyrillic N daletholam N Yatcyrillic N daletholamhebrew N Yericyrillic N daletnatah N Yicyrillic N daletpatahhebrew N Zdot N daletgamats N Zecvrillic N daletgamatshebrew N Zhecvrillic N daletqubuts N acutecmb N daletqubutshebrew N acyrillic N daletsegol N afii00208 N daletsegolhebrew N afii08941 N daletsheva N afii57694 N daletshevahebrew N afii57695 N dalettsere N afii57700 N dammaarabic N afii57705 N dammatanaltonearabic N afii57723 N dargahebrew N alef N dbllowline N alefmaksurainitialarabic N decimalseparatorarabic N alefmaksuramedialarabic N dialytikatonos N approximatelyequal N dotbelowcmb N asteriskaltonearabic N doubleyodpatah N ayin N doubleyodpatahhebrew N bet N edot N betdagesh N eightarabic N blackdownpointingtriangle N eighthnotebeamed N blackleftpointingpointer N etnahtafoukhhebrew N blackrectangle N etnahtafoukhlefthebrew N blackrightpointingpointer N etnahtahehrew N fathaarabic N blacksmilingface N finalkaf N blacksquare N blackuppointingtriangle N finalkafdagesh N bulletinverse N finalkafhebrew N cdot N finalkafgamats N finalkafgamatshebrew N compass N dagesh N finalkafsheva N dalet N finalmem N daletdagesh N finalnun N dalethatafpatah N finalpe

N finaltsadi

N dalethatafpatahhebrew

N fivearabic N hiria21 N forall N hiriq2d N fourarabic N hirighebrew N acedilla N hirignarrowhebrew N qdot N hirigguarterhebrew N gimel N holam N gimeldagesh N holam19 N holam26 N gravecmb N haaltonearabic N holam32 N hamzaarahic N holamhebrew N hamzadammaarabic N holamnarrowhebrew N hamzadammatanarabic N holamquarterhebrew N hamzafathaarabic N ilde N hamzafathatanarabic N integralbottom N hamzalowarabic N integraltop N hamzalowkasraarabic N kaf N hamzalowkasratanarabic N kafdagesh N hatafpatah N kashidaautoarabic N hatafpatah16 N kashidaautonosidebearingarabic N hatafpatah23 N kcedilla N hatafpatah2f N lamed N hatafpatahhebrew N lameddagesh N hatafpatahnarrowhebrew N lamedhebrew N lamedholam N hatafpatahguarterhebrew N hatafgamats N lamedholamdagesh N hatafqamats1b N lamedholamdageshhebrew N laminitialarabic N hatafgamats28 N hatafqamats34 N lammeemjeeminitialarabic N hatafqamatshebrew N lcedilla N hatafgamatsnarrowhebrew N logicalnotreversed N hatafgamatsquarterhebrew N mahapakhhebrew N hatafsegol N mem N hatafsegol17 N memdagesh N hatafsegol24 N merkhahebrew N hatafsegol30 N merkhakefulahebrew N hatafsegolhebrew N middot N hatafsegolnarrowhebrew N munahhebrew N hatafsegolguarterhebrew N nbspace N ncedilla N he N hedagesh N newsheqelsign N hehfinalalttwoarabic N ninearabic N noonhehinitialarabic N het N hiriq N nun

N nundagesh

N hirig14

N odblacute N qofsegol N onearabic N gofsegolhebrew N overscore N qofsheva N qofshevahebrew N patah N patah11 N goftsere N patahld N qubuts N patah2a N aubuts18 N patahhebrew N aubuts25 N patahnarrowhebrew N qubuts31 N patahquarterhebrew N gubutshebrew N qubutsnarrowhebrew N pe N pedagesh N qubutsquarterhebrew N gamats N quoteleftreversed N qamats10 N rafe N qamatsla N rcedilla N gamats1c N reharabic N gamats27 N resh N qamats29 N reshhatafpatah N qamats33 N reshhatafpatahhebrew N gamatsde N reshhatafsegol N gamatshebrew N reshhatafsegolhebrew N gamatsnarrowhebrew N reshhebrew N reshhiriq N qamatsqatanhebrew N reshhirighebrew N gamatsgatannarrowhebrew N gamatsgatanguarterhebrew N reshholam N gamatsgatanwidehebrew N reshholamhebrew N qamatsquarterhebrew N reshpatah N qof N reshpatahhebrew N qofdagesh N reshqamats N gofhatafpatah N reshgamatshebrew N gofhatafpatahhebrew N reshaubuts N qofhatafsegol N reshqubutshebrew N qofhatafsegolhebrew N reshsegol N gofhebrew N reshsegolhebrew N reshsheva N gofhirig N qofhiriqhebrew N reshshevahebrew N gofholam N reshtsere N gofholamhebrew N reviahebrew N qofpatah N samekh N qofpatahhebrew N samekhdagesh N gofgamats N segol N qofqamatshebrew N segol13 N qofqubuts N segol1f N gofqubutshebrew N segol2c

|   | segolhebrew              |        | l twoarabic      |            |
|---|--------------------------|--------|------------------|------------|
|   | segolnarrowhebrew        | N      | I udblacute      |            |
|   | segolquarterhebrew       |        | l vav            |            |
| N | sevenarabic              |        | l vavdagesh      |            |
| N | sfthyphen                | N      | l vavdagesh65    |            |
| N | shaddaarabic             | N      | I vavholam       |            |
| N | sheqel                   | N      | l yerahbenyomohe | ebrew      |
| N | sheva                    | N      | l yod            |            |
| N | sheva115                 | N      | l yoddagesh      |            |
| N | sheva15                  | N      | l zayin          |            |
| N | sheva22                  | N      | l zayindagesh    |            |
| N | sheva2e                  | N      | I zdot           |            |
| N | shevahebrew              | N      | l zeroarabic     |            |
| N | shevanarrowhebrew        | D i    | unicodes         |            |
| N | shevaquarterhebrew       | D ca   | che              |            |
| N | shin                     | Fis    | _known           |            |
| N | shindagesh               | D kn   | own              |            |
| N | shindageshshindot        | F lo   | ad               |            |
| N | shindageshsindot         | F ma   | ke_unicode_vect  | or         |
| N | shinshindot              | D ma   | th               |            |
| N | shinsindot               | N ve   | rsion            |            |
| N | siluqhebrew              | enhanc | eid              | function   |
| N | sixarabic                | expans | ions             | data table |
| N | tav                      | format | S                | data table |
| N | tavdages                 | getalt | ernate           | function   |
| N | tavdagesh                | getdis | cexpansion       | function   |
| N | tcedilla                 | getker | n                | function   |
| N | tchehinitialarabic       | getmul | tiple            | function   |
| N | tet                      | getsub | stitution        | function   |
| N | tetdagesh                | getter | S                | table      |
| N | tevirhebrew              | T al   | ternate          |            |
| N | thousandsseparatorarabic | F      | opentype         |            |
| N | threearabic              | T ke   | rn               |            |
| N | tildecmb                 | F      | opentype         |            |
| N | tipehahebrew             | F ·    | type1            |            |
| N | tsadi                    | T mu   | ltiple           |            |
| N | tsadidagesh              | F      | opentype         |            |
| N | tsere                    | T su   | bstitution       |            |
| N | tsere12                  | F      | opentype         |            |
| N | tserele                  | goodie | s                | table      |
| N | tsere2b                  | D co   | lorschemes       |            |
| N | tserehebrew              | T da   | ta               |            |
| N | tserenarrowhebrew        | Т      | dejavu-math      |            |
| N | tserequarterhebrew       | 9      | author           |            |
|   |                          |        |                  |            |

| S comment               | D identifiers                |
|-------------------------|------------------------------|
| S copyright             | D italics                    |
| B initialized           | D lastmathids                |
| T mathematics           | D marks                      |
| T alternates            | D modes                      |
| T dotless               | D originals                  |
| N attribute             | D parameters                 |
| S comment               | T processes                  |
| S feature               | D properties                 |
| N value                 | D quads                      |
| T kerns                 | D resources                  |
| S name                  | T setdynamics                |
| S version               | T shapes                     |
| D designsizes           | D spaces                     |
| D filenames             | D spacings                   |
| F getcompositions       | D unicodes                   |
| T list                  | D variants                   |
| F compositions          | D xheights                   |
| F designsizes           | <b>helpers</b> table         |
| F expansions            | F addprivate                 |
| F featureset            | F dimenfactor                |
| F filenames             | F expandglyph                |
| F files                 | F fontpatternhassize         |
| F mathematics           | F getcoloredglyphs           |
| F protrusions           | F getdigitwidth              |
| F solutions             | F getparameters              |
| F treatments            | F getprivatenode             |
| F typefaces             | F hasprivate                 |
| F load                  | F indextoslot                |
| F prepare_features      | F name                       |
| F register              | F nametoslot                 |
| F registerpostprocessor | F setdigitwidth              |
| F report                | F splitfontpattern           |
| T suffixes              | F tochar                     |
| handlers table          | <pre>infofont function</pre> |
| hashes table            | <pre>iterators table</pre>   |
| D characters            | F characters                 |
| D csnames               | F descriptions               |
| D descriptions          | F glyphs                     |
| D dynamics              | <b>loggers</b> table         |
| D emwidths              | F add_placeholders           |
| D exheights             | D category_to_placeholder    |
| D extensibles           | F format                     |
| D features              | F onetimemessage             |
|                         |                              |

| F register         |            | reserveid         | function |
|--------------------|------------|-------------------|----------|
| F reportdefinedfor | its        | select            | table    |
| F reportusedfeatur | es         | T alternatives    |          |
| mappings           | table      | F bodyfont        |          |
| F addtounicode     |            | T data            |          |
| F fromunicode16    |            | F default         |          |
| F loadfile         |            | T defaults        |          |
| F loadline         |            | T asanamath       |          |
| F makenameparser   |            | T options         |          |
| D overloads        |            | S extras          |          |
| F reset            |            | S features        |          |
| F tounicode        |            | S goodies         |          |
| F tounicode16      |            | T cambriamath     |          |
| F tounicodel6seque | ence       | T options         |          |
| metapost           | table      | S extras          |          |
| F boundingbox      |            | S features        |          |
| F boxtomp          |            | S goodies         |          |
| F draw             |            | T dejavumath      |          |
| F fill             |            | T options         |          |
| F maxbounds        |            | S extras          |          |
| F output           |            | S features        |          |
| F paths            |            | T latinmodernmath | ı        |
| F widthline        |            | T options         |          |
| F zeroline         |            | S extras          |          |
| mp                 | table      | S features        |          |
| D cache            |            | S goodies         |          |
| B inline           |            | T lucidabrightmat | hot      |
| N version          |            | T options         |          |
| names              | data table | S extras          |          |
| nulldata           | data table | S features        |          |
| protrusions        | data table | S goodies         |          |
| readers            | table      | T neoeuler        |          |
| F afm              |            | T options         |          |
| F check_lua        |            | S extras          |          |
| F check_tfm        |            | S features        |          |
| F lua              |            | T rm              |          |
| F ofm              |            | T features        |          |
| F opentype         |            | S sc              |          |
| F otf              |            | T ss              |          |
| F pfb              |            | T features        |          |
| D sequence         |            | S sc              |          |
| F tfm              |            | T texgyrebonummat | :h       |
| F ttc              |            | T options         |          |
| F ttf              |            | S extras          |          |

S features F file T texgyredejavumath F name T options F style S extras T presets S features F registerfallback T texgyrepagellamath F registerfiles T options F registerfontalternative S extras F registerfontfamily S features F textfallback T texgyrescholamath F typeface T options F typescript S extras F userdata setdiscexpansion function S features specifiers table T texgyretermesmath T options D contextmerged S extras F contextnumber S features D contextnumbers T xitsmath D contextsetups T options F contexttostring S extras F definecontext S features F mergecontext S goodies F presetcontext F definefallbackfamily F registercontext F definefontfamily F showcontext F definefontfamilypreset F splitcontext T extras D synonyms F features D variants symbols table F goodies F fallback F uselibrary tables table T fallbacks tracers table F features treatments table F filefallback F fontdata F applyfixes F fontfallback D data F fontsynonym S filename F goodies F ignoredfile F mathfallback F report T methods F trace typefaces table F default

# functions (context)

**dummy** function

### graphics (context)

#### backgrounds table

F calculatemultipar

F fetchmultipar

F pair

F path

F point

## gzip (extra lua)

| close | function | open   | function |
|-------|----------|--------|----------|
| lines | function | save   | function |
| load  | function | suffix | function |

## img (basic tex)

| boxes          | function | ofindex   | function |
|----------------|----------|-----------|----------|
| check          | function | package   | function |
| checksize      | function | print     | function |
| clone          | function | scan      | function |
| сору           | function | serialize | function |
| immediatewrite | function | totable   | function |
| keys           | function | types     | function |
| new            | function | write     | function |
| node           | function |           |          |

### interactions (context)

attachments data table D functions fields table D preambles F clone F setpreamble F define F storecode F defineset F storepreamble F insert F usepreamblenow general table F usescripts linkedlists data table F getidentity pages table F setupidentity help table F setpagetransition F collect F setupcanvas table references F reference F register F setclosedocument javascripts table F setclosepage F addtopreamble F setopendocument F code F setopenpage renderings data table D codes soundclips data table F flushpreambles

## interfaces (context)

| addvalidkeys             | function   | F MPplus                    |
|--------------------------|------------|-----------------------------|
| cachedsetups             | data table | F MPpos                     |
| cachesetup               | function   | F MPposset                  |
| checked specification    | function   | F MPr                       |
| complete                 | data table | F MPrest                    |
| constants                | data table | F MPrs                      |
| corenamespaces           | data table | F MPul                      |
| currentinterface         | string     | F MPur                      |
| currentresponse          | string     | F MPw                       |
| definecommand            | function   | F MPx                       |
| defined                  | function   | F MPxy                      |
| doifelsemessage          | function   | F MPxywhd                   |
| elements                 | data table | F MPy                       |
| formats                  | data table | F Romannumerals             |
| getcheckedparameters     | function   | F abjadnodotnumerals        |
| getmessage               | function   | F abjadnumerals             |
| getsetupstring           | function   | F addcounter                |
| hashedsetups             | data table | F addfeature                |
| implement                | function   | F addgrapheme               |
| interfacedcommand        | function   | F addlinklistelement        |
| interfaces               | table      | F addreplacements           |
| invalidkey               | function   | F addtocolumnset            |
| message                  | function   | F addtojavascriptpreamble   |
| namespaces               | table      | F addtolist                 |
| F define                 |            | F addvalidinterfacekeys     |
| F list                   |            | F allinputpaths             |
| registernamespace        | function   | F alphabetic                |
| scanners                 | table      | F analysefloatmethod        |
| F Alphabetic             |            | F analyzeitemgroup          |
| F Character              |            | F analyzelist               |
| F Characters             |            | F analyzeregister           |
| F MPLIBconvertoutlinetex | t          | F applytobox                |
| F MPc                    |            | F applytofirstcharacter     |
| F MPd                    |            | F assignbuffer              |
| F MPh                    |            | F autofinishstructurelevels |
| F MPll                   |            | F autonextspace             |
| F MPlr                   |            | F autonextstructurelevel    |
| F MPls                   |            | F autosetups                |
| F MPn                    |            | F autostarttext             |
| F MPp                    |            | F autostoptext              |
| F MPpardata              |            | F averagecharwidth          |
|                          |            |                             |

F bitmapimage F btxloadreplacementfile F blockcolumnset F btxoneorrange F boxtostring F btxpreparelistentries F btxremapauthor F bposcolumn F bposcolumnregistered F btxsavedataset F btxabbreviatedjournal F btxsavejournallist F btxaddentrv F btxsetdataset F btxaddiournal F htxsetentry F htvauthor F btxsetregister F htvauthorfield F btxsetspecification F btxauthortoregister F btxsingularorplural F btxcollectlistentries F btxtoregister F btxcurrentfirstnames F btxusedataset F btxcurrentinitials F btxuservariable F btxcurrentiuniors F buildtextaccent F btxcurrentsurnames F character F btxcurrentvons F characters F btxdetail F chardescription F btxdirect F checkcolumnset F btxdoif F checkcountersetup F btxdoifelse F checkedconversion F btxdoifelsecombiinlist F checkedpagefloat F btxdoifelsesameasprevious F checkinjector F btxdoifelseuservariable F checkinterfacechain F btxdoifnot F checktwopassdata F btxexpandediournal F chemicalcomponent F btxfetchlistentries F chinesenumerals F btxfield F cleanfontname F btxfieldname F cleanupbox F btxfieldtype F cleanuplayers F btxfirstofrange F clonefield F htxflush F collectfloat F btxflushlistcombi F collecthelp F btxflushlistentry F colorcomponents F btxflushmarked F columnsetcurrentcolumn F btxflushpages F columnsetgoto F btxfoundname F columnsetnoto F btxfoundtype F concatcommalist F btxhandlecite F consultfloat F btxhandlenocite F convertbtxdatasettoxml F btxlastofrange F converteddimen F btxlistvariant F convertmpstopdf F btxloaddefinitionfile F copyposition F btxloadjournallist F cos

F cosd F definelanguage F countervalue F definelinefiller F counttwopassdata F definelinkedlist F definemarking F currentcomponent F currentdate F definemetafont F currentdesignsize F definemultitonecolorglobal F currentenvironment F definenamespace F definenote F currentposthyphenchar F currentprehyphenchar F defineparallel F defineparbuilder F currentproduct F currentproject F defineprocesscolordummv F currentreferenceorder F defineprocesscolorglobal F currentsectiontolist F defineprocesscolorlocal F datasetvariable F defineprogram F dayname F definereference F decimals F defineregister F decrementcounter F definerule F definesectionlevels F decrementedcounter F defineshift F decrementsubcounter F defineaccents F definesnapmethod F defineattribute F definespotcolorglobal F definebreakpoint F definestructureblock F definebreakpoints F definestructureset F definecharacterspacing F definetransparency F definechemical F definetwopasslist F definecolumnset F definetypeface F defineviewerlayer F defineconversion F definecounter F depthnumber F definedlayoutcomponent F digits normal F definefallbackfamily F digits reverse F definefield F disableautofontscript F definefieldset F disabledirectives F definefilefallback F disableexperiments F definefilesynonym F disablejobsave F definefont one F disableparbuilder F definefont two F disableregime F definefontfamily F disablespellchecking F definefontfamilypreset F disablestatetriggering F definefontfeature F disablestream F definefontsolution F disabletrackers F definehyphenationfeatures F discardfromlist F defineinsertion F doanalyzeframedbox F defineintermediatecolor F doifcommon

F doifcounter

F definelabels

F doifelseblack F doifelsesvnonvmused F doifelsebuffer F doifelseurldefined F doifelsecharinfont F doifelseutfmathabove F doifelseutfmathaccent F doifelsecommon F doifelsecontinuewithfile F doifelseutfmathbelow F doifelseconverter F doifelseutfmathfiller F doifelsecounter F doifelsevisualizer F doifelsecurrentfonthasfeature F doiffieldsetelse F doifelsedrawingblack F doifinset F doifelsefieldcategory F doifnotcommon F doifelsefiledefined F doifnotcounter F doifelsefileexist F doifnotecontent F doifelsefirstchar F doifnoteonsamepageasprevious F doifelsefontpresent F doifnotinset F doifelseinelement F doifnotsame F doifelseinputfile F doifposition F doifelseinset F doifsame F doifelseintwopassdata F doprocesstypescriptfile F doifelseleapyear F doreshapeframedbox F doifelselisthasentry F dosaveposition F doifelselisthasnumber F dosavepositionplus F doifelselisthaspage F dosavepositionwhd F doifelselisthastitle F dosetposition F doifelselocfile F dosetpositionbox F doifelsemarking F dosetpositionplus F doifelsemessage F dosetpositionstrut F doifelseobject F dosetpositionwhd F doifelseobjectreference F dostarttextfile F doifelseolderversion F dostoptextfile F doifelseoverlapping F elapsedtime F doifelseparallel F enableasciimode F doifelseparentfile F enableautofences F doifelsepathexist F enableautofontscript F doifelseposition F enablebackgroundalign F doifelsepositiononpage F enablebackgroundboxes F doifelsepositionsonsamepage F enablecolor F doifelsepositionsonthispage F enablecolorintents F doifelsepositionsused F enablecrlf F enabledirectives F doifelserangeonpage F doifelsereference F enableexperiments F doifelserighttoleftinbox F enablefontcolorschemes F doifelsesame F enableinteraction F doifelsestackedfloats F enablelinefillers

F enableparbuilder

F doifelsesynonymshown

F enableregime F figure scale F enablerules F figurefilename F enableshifts F figurefilepath F enablespellchecking F figurefiletype F enablestatetriggering F figurerequest F enablestream F figuresetdimensions F enabletrackers F figurestatus F enabletransparency F figureused F enableutf F filterdefaultreference F enhancelinkedlist F filterreference F enhancelist F finalizebox F enhancereference F findregisterinternal F enhanceregister F findtwopassdata F eposcolumn F finishcolumnsetflush F eposcolumnregistered F finishexport F erasebuffer F firstcountervalue F execute F firstinset F expandcurrentreference F firstsubcountervalue F exportformdata F flushcolumnsetareas F exportreferences F flushcolumnsetcolumn F extendregister F flushcolumnsetrest F extensiblecode F flushfloat F fakeword F flushlabeledfloat F featureattribute F flushnotes F featurelist F flushpageinjectionsafter F feedback F flushpageinjectionsbefore F fetchallmarks F flushpostponedblocks F fetchmultipar F flushpostponednotes F fetchmultishape F flushstream F fetchonemark F flushstreamcopy F fetchposboxes F fontchar F fetchtwomarks F fontcharbyindex F figure check F fontcollectionclone F fontcollectiondefine F figure done F figure\_dummy F fontcollectionprepare F figure flush registered pages F fontcollectionregister F figure\_identify F fontcollectionreport F figure\_include F fontcollectionreset F fontlookupgetkey F figure mergegoodies F figure\_nof\_registered\_pages F fontlookupgetkeyofindex F fontlookupinitialize F figure\_pop F fontlookupnoffound F figure\_push F forceendjob F figure register page

F forcequitjob

F figure reset

F formatcolor F getreadfilename F formatgray F getsetupstring F getsomefullstructurenumber F from F frule F getsomestructurenumber F getbidimode F getspecificstructuretitle F getbodyfontsizes F getstructurelevel F getbuffer F getstructurenumber F getbufferctxlua F aetsubstrina F getbuffermkvi F gettexbuffer F getcheckedinterfaceparameters F gettwopassdata F getcurrentprefixspec F gettwopassdatalist F getcurrentreferencemetadata F aeturl F getdefaultfieldvalue F getvisual F getdocumentargument F hboxtovbox F getdocumentfilename F helpaction F getelementtag F helpreference F getfieldcategory F hexstringtonumber F horizontal code F getfile F getfirstcharacter F hour F getfirsttwopassdata F hyphenatedlist F getfloatvariable F hyphenatedurl F getfullstructurenumber F immediatemessage F getinternalcachedlistreference F increment counter F getinternallistreference F incrementedcounter F getlasttwopassdata F incrementsubcounter F getmarking F initializeiob F initializemathdomain F getmathdomain F getmathitalics F initializemathitalics F initializestream F getmessage F getmpextensions F initializetexdirectives F getmprandomnumber F initializetextrackers F getnaturaldimensions F injectcurrentreference F getnaturalwd F injectcurrentreferencehtdp F getnotestate F injectreference F inlinechemical F getobjectdimensions F getobjectreference F inputfilebarename F getobjectreferencepage F inputfilename F inputfilerealsuffix F getprivatechar F getprivateglyphslot F inputfilesuffix F getprogram F insertattachment F getrandomdimen F insertcomment

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F insertfield
F insertionnumber

F insertrenderingwindow

F getrandomfloat

F getrandomnumber F getrandomseed

F installedlanguages F lpdf collectedresources F installtexdirective F lpdf color F installtextracker F luascript F iobfilename F luathread F jobfilesuffix F lxmlid F languagenumber F markcontent F lastcountervalue F markingnumber F lastsubcountervalue F markingtitle F 1chevnumber F markinjector F lchexnumbers F markregionbox F leapyear F markregionboxcorrected F linenumbersstageone F markregionboxtagged F linenumbersstagetwo F markvisualfonts F listgroupindex F mathfraction F listlabel F mathrenderset F listlocation F message F listnamespaces F metapostescaped F listprefixednumber F metapostformatted F listprefixedpage F metapostgraphformat F listrealpage F minute F listsize F mixcleanup F listtitle F mixfinalize F listuserdata F mixflushlist F loadexamodes F mixflushrest F loadfontgoodies F mixaetsplit F loadluamodule F mixsetsplit F loadmapfile F mixstate F loadmapline F molecule F loadspellchecklist F month F loadtypescriptfile F monthmnem F loadvisualizer F monthname F locatefilepath F mpcolor F locfilename F mpflushliteral F mpflushreset F lower F lpdf\_adddocumentcolorspace F mpgettext F lpdf adddocumentextgstate F mpgraphic F lpdf\_adddocumentpattern F mpoptions F lpdf\_adddocumentshade F mprunset F lpdf addtocatalog F mpruntab F lpdf addtoinfo F mprunvar F lpdf\_addtonames F mpsetclippath F lpdf\_addtopageattributes F mpsetoutercolor F lpdf addtopageresources F mpsetsxsy F lpdf\_addtopagesattributes F mpsettext

F mptexaet F pgfxcolorspec F mptexreset F pickupbuffer F mptexset F pickupmarkedcontent F mptexsetfrombuffer F pickuppunctuation F namedstructureuservariable F placeparallel F namedstructurevariable F popfloat F naturalwd F pophyphenation F nhfs F popitaliccorrection F nextcountervalue F poplist F nextparallel F poppath F nextsubcountervalue F poprandomseed F nofconversions F popreferenceprefix F nofdays F popregime F nofstackedfloats F popsectionblock F notedeltapage F postponenotes F noteinternal F prefixedconverted F notelistindex F preparecolumnsetflush F noteprefixednumber F presetsymbollist F notetitle F presettabulate F ntimes F prevcountervalue F number F previoussubcountervalue F numbers F processbodyfontsizes Foctnumber F processbuffer F octstringtonumber F processcolorcomponents F operatingsystem F processedfile F ordinal F processedfiles F outputfilename F processfile F overloadbookmark F processfilemany F overloaderror F processfilenone F overloadlowercase F processfileonce F overloaduppercase F processiob F pageofinternal F processlist F pagestaterealpage F processregister F parpos F processsplit F pdfrotation F processsynonyms F pdfstartmatrix F profilebox F pdfstartmirroring F purefontname F pdfstartrotation F pushfloat F pdfstartscaling F pushhyphenation F pdfstopmatrix F pushitaliccorrection F pdfstopmirroring F pushlist F pdfstoprotation F pushpath

F pushrandomseed

F pushreferenceprefix

F pdfstopscaling

F percentageof

F pushreaime F registeruserdata F pushsectionblock F relatemarking F pushstream F renderingvar F putincolumnset F replacefeature F rawcharacter F replacepospxywhd F rawcountervalue F reportstructure F rawdate F resavefloat F resetcharacteralign F rawsetupstring F rawsubcountervalue F resetcolumnset F referencepagedetail F resetcounter F referencepagestate F reseteffect F referencerealpage F resetfeature F registerattachment F resetfontfeature F registerbackendsymbol F resetfontsolution F registerbodyfontsize F resetiniector F registerbookmark F resetitaliccorrection F registerbuttons F resetmanfiles F registercolorintent F resetmarking F resetmathattributes F registercolumnsetarea F registeredviewerlayer F resetmathitalics F registerfigurepattern F resetnullfont F registerfiguresuffix F resetparallel F registerfontalternative F resetpath F registerfontfamily F resetprevdepth F registerhelp F resetreference F registerhyphenationexception F resetscript F registerhyphenationpattern F resetshownsynonyms F registeritemgroup F resetstructureprocessor F registerlanguagefeatures F resetsubcounter F registerlinenumbering F resettimer F registermaintextcolor F resettrackers F registermpyfile F resetusedsynonyms F registernamedlua F restartcounter F registernamespace F restartsubcounter F registerobject F restorecounter F registerpostponedblock F restorecurrentattributes F registerreferencedobject F restorenote F registerrendering F restoreobject F registersection F reuserandomseed F registershownsynonym F revivefeature F registerstructureprocessor F romannumerals F registersynonym F rounded

F runbuffer

F runcontextjob

F registerunit

F registerusedsynonym

F safechar F setdocumentenvironments F savebuffer F setdocumentfilename F savecounter F setdocumentfilenames F savecurrentattributes F setdocumentmodes F savedlistnumber F setdocumentmodules F savedlistprefixednumber F seteffect F savedlisttitle F setelementuserproperties F savefloat F setfieldcalculationset F savemargindata F setfigurelookuporder F setfigurepaths F savenote F savepagedata F setfirstline F savepageinjections F setfontfeature F saveparallel F setfontofid F savespecificfloat F setfontsolution F savestructureblock F setformat F savetaggedtwopassdata F setformsmethod F savetwopassdata F sethsizecolumnset F savevariable F sethsizecolumnspan F second F sethyphenatedurlcharacters F selectstructureblock F sethyphenationfeatures F setactivecatcodes F sethyphenationmethod F setbreakpoints F setinitial F setinitialsectionblock F setcharacteralign F setinjector F setcharactercasing F setcharactercleaning F setinnerreferencemethod F setcharacterkerning F setinsertionlocation F setinterfaceconstant F setcharacterspacing F setcharacterstripping F setinterfaceelement F setclosedocumentaction F setinterfacemessage F setclosepageaction F setinterfacemessages F setcolormodel F setinterfacevariable E setcolumnsetarea F setinternal reference F setcolumnsetlines F setitaliccorrection F setcolumnsetproperties F setjavascriptpreamble F setcolumnsetstart F setjobcomment F setcounter F setlanguageexceptions F setdataset F setlanguagesynonym F setdestinationattribute F setlettercatcodes F setmapfile F setdigitsmanipulation F setdirection F setmapline F setdocumentargument F setmarking F setdocumentcommandline F setmathalphabet

F setmathalternate

F setmathattribute

F setdocumentctxfile

F setdocumentdefaultargument

F setmathdirection F settagitemgroup F setmathdomain F settaglist F setmathitalics F settagnotation F setmathstyle F settagnotationsymbol F setmpextensions F settagproperty F setnaturalwd F settagproperty b F setnegative F settagproperty n F setnextinternal reference F settagregister F setnextreferenceorder F settagsorting F setnotestate F settagsubsentencesymbol F setopendocumentaction F settagsynonym F setopenpageaction F settagtablecell F setowncounter F settagtabulatecell F setownsubcounter F setupbookmarks F setpagecolormodel F setupcanvas F setpagestate F setupcharacterspacing F setpagestaterealpageno F setupexport F setpagetransition F setupfontexpansion F setparbuilder F setupfontprotrusion F setpdfcompression F setupidentity F setprofile F setupinsertion F setrandomseed F setupitaliccorrection F setrealign F setuplinenumbering F setuserinterface F setrealspaces F setreferencearguments F setvalidinterfacekevs F setreferenceoperation F setvisual F setregionbox F setvisualfont F setregionboxtagged F setvisuallayer F setregistermethod F setvisuals F setreplacements F setvsizecolumnset F setscript F setxmpfile F setsectionblock F showassignerror F setsectionentry F showattributes F setstructureblockstate F showcounter F setstructurelevel F showdebuginfo F setstructurenumber F showdirectives F setsubcounter F showdiscretionaries F settagaspect F showexperiments F settagcombination F showhyphenatedinlist F settagdelimitedsymbol F showhyphenationtrace F settagfigure F showinjector F settaggedmetadata F showjustification F settaghighlight F showlogcategories

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F showmessage

F settagitem

F storeregister F showtrackers Fsin F strdp F sind F strhd F splitfilename F strht F spotcolorname F strip F spotcolorparent F structureautocatcodedget F spotcolorvalue F structurecatcodedget F startactualtext F structuregivencatcodedget F startchemical F structurenumber F startcolorset F structuretitle F startcomponent F structureuservariable F startenvironment F structurevariable F startfontsolution F strwd F startparbuilder F subcountervalue F startproduct F subcountervalues F startproject F subsubcountervalues F startregime F subtractfeature F startsectionlevel F synchronizemarking F startstream F synchronizestream F starttag F synonymmeaning F starttag c F synonymname F starttag d F systemlog F tagmfunctionlab F starttag\_u F starttext F tagmfunctiontxt F startviewerlayer F tan F step F tand F stopactualtext F texdefinition\_one F stopchemical F texdefinition two F stopcolorset F textime F stopcomponent F thefirstcharacter F stopenvironment F themaxboxwidth F stopfontsolution F theremainingcharacters F stopparbuilder F tochar F stopproduct F transparencycomponents F stopproject F triggerpagebuilder F stopregime F truefilename F stopsectionlevel F type F stopstream F typebuffer F typefile F stoptag F stoptext F uchar F stopviewerlayer F uchexnumber F uchexnumbers F storejavascriptcode F storejavascriptpreamble F undefinechemical F storenote F unicodechar

F unihex F vspacingcollapseonly F unit normal F vspacingdefine F unit reverse F vspacingsetamount F unloadlanguage F vspacingsnap F upper F way F useMPlibrary F weekday F useanvfile F weekdavname F useanvfileonce F writestatus Fusecldfile F x table c F usecldfilennce F x table cleanup F usecolors F x table construct F usecomponent F x table create F useenvironment F x\_table\_finish\_row F usefigurebase F x table flush F usefile F x table init construct F usejavascriptpreamble F x\_table\_init\_reflow\_height F usejavascriptscripts F x\_table\_init\_reflow\_height\_option F useluafile F x table init reflow width F useluafileonce F x table init reflow width option F useluamodule F x table next row F usemodules F x table next row option F usepath F x table r F x\_table\_reflow\_height F useproduct F useproject F x\_table\_reflow\_width F usesubpath F x table set construct F x\_table\_set\_reflow\_height F usesymbols F usetexfile F x\_table\_set\_reflow\_width F usetexfileonce F xmladdindex F useurl F xmlaftersetup F usexmlfile F xmlall F usexmlfileonce F xmlappendsetup F usezipfile F xmlapplyselectors Futfchar F xmlatt F utfmathclass F xmlattdef F utfmathcommand F xmlattribute F utfmathcommandabove F xmlattributedef F utfmathcommandbelow F xmlbadinclusions F utfmathcommandfiller F xmlbeforesetup F utfmathfiller F xmlchainatt F utfmathstretch F xmlchainattdef F vboxlisttohbox F xmlchecknamespace F xmlcommand F verbose F xmlconcat F vspacing F vspacingcollapse F xmlconcatrange

F xmlcontext F xmlloadbuffer F xmlcount F xmlloaddata F xmldelete F xmlloaddirectives F xmldirect F xmlloadentities F xmldirectives F xmlmain F xmldirectivesafter F xmlmatch F xmldirectivesbefore F xmlname F xmldisplavverbatim F xmlnamespace F xmldoif F xmlnonspace F xmldoifelse F xmlpath F xmldoifelseemptv F xmlpos F xmldoifelseselfemptv F xmlprependsetup F xmldoifelsetext F xmlpure F xmldoifemptv F xmlraw F xmldoifnot F xmlrawtex F xmldoifnotempty F xmlrefatt F xmldoifnotselfempty F xmlregisterns F xmldoifnottext F xmlremapname F xmldoifselfempty F xmlremapnamespace F xmldoiftext F xmlremovesetup F xmlelement F xmlresetiniectors F xmlfilter F xmlresetsetups F xmlfilterlist F xmlsave F xmlfirst F xmlsetcommandtonone F xmlflush F xmlsetcommandtotext F xmlflushcontext F xmlsetentity F xmlflushlinewise F xmlsetinjectors F xmlflushpure F xmlsetsetup F xmlflushsetups F xmlsnippet F xmlflushspacewise F xmlstartraw F xmlflushtext F xmlstarttiming F xmlfunction F xmlstopraw F xmlgetindex F xmlstoptiming F xmlinclude F xmlstrip F xmlincludeoptions F xmlstripanywhere F xmlinclusion F xmlstripnolines F xmlinclusions F xmlstripped F xmlindex F xmlstrippednolines F xmlinlineverbatim F xmltag F xmlinstalldirective F xmltexentity F xmllast F xmltext F xmllastatt F xmltobuffer

F xmltobufferverbose

F xmltofile

F xmllastmatch

F xmlload

| F xmltoparameters |          | setupstrings     | data table |
|-------------------|----------|------------------|------------|
| F xmlverbatim     |          | setuserinterface | function   |
| F xmlwithindex    |          | setvalidkeys     | function   |
| F year            |          | setvariable      | function   |
| setconstant       | function | showmessage      | function   |
| setcount          | function | storedscanners   | data table |
| setdimen          | function | strings          | table      |
| setelement        | function | syntax           | data table |
| setformat         | function | tolist           | function   |
| setmacro          | function | translations     | data table |
| setmessage        | function | variables        | data table |
| setmessages       | function | writestatus      | function   |
| settranslation    | function |                  |            |
|                   |          |                  |            |

#### io (basic lua)

ask function
bytes function
characters function
close function
exists function
fileseparator string
flush function

loadchunk function
loaddata function
loadlines function
noflines function

pathseparator string

function read readall function readnumber function readstring function savedata function size function stderr userdata stdin userdata stdout userdata tmpfile function function type write function

### jit (context)

arch string
attach function
flush function
off function
on function
opt table

F start

os string
status function
version string
version\_num number

# job (context)

| comment           | function | F    | find          |       |
|-------------------|----------|------|---------------|-------|
| datasets          | table    |      | first         |       |
| D collected       |          |      | get           |       |
| F extend          |          |      | getcollected  |       |
| F getdata         |          |      | getdata       |       |
| F setdata         |          |      | getfield      |       |
| D tobesaved       |          |      | gettobesaved  |       |
| disablesave       | function |      | inlist        |       |
| fileobjreferences | table    | F    | last          |       |
| D collected       |          | F    | list          |       |
| D tobesaved       |          | F    | save          |       |
| files             | table    | F    | savetagged    |       |
| D collected       |          | D    | tobesaved     |       |
| F context         |          | posi | tions         | table |
| B forcerun        |          | F    | b_column      |       |
| F run             |          | F    | b_region      |       |
| D tobesaved       |          | F    | С             |       |
| initialize        | function | D    | collected     |       |
| load              | function | F    | column        |       |
| loadother         | function | F    | сору          |       |
| objects           | table    | F    | depth         |       |
| D collected       |          | F    | e_column      |       |
| F get             |          | F    | e_region      |       |
| F number          |          | F    | enhance       |       |
| F page            |          | F    | extra         |       |
| F save            |          | F    | get           |       |
| F set             |          | F    | getreserved   |       |
| D tobesaved       |          | F    | gettobesaved  |       |
| pack              | boolean  | F    | hangafter     |       |
| packversion       | number   | F    | hangindent    |       |
| pagestates        | table    | F    | height        |       |
| D collected       |          | F    | hsize         |       |
| F extend          |          | F    | leftskip      |       |
| F realpage        |          | F    | lowerleft     |       |
| F setstate        |          | F    | lowerright    |       |
| D tobesaved       |          |      | markregionbox |       |
| passes            | table    | F    |               |       |
| F check           |          |      | onsamepage    |       |
| D collected       |          |      | overlapping   |       |
| F count           |          | F    | p             |       |
| F define          |          | F    | page          |       |

| F paragraph<br>F parindent | register<br>save | function<br>function |
|----------------------------|------------------|----------------------|
| F position                 | structure        | table                |
| Fr                         | D collected      | cubic                |
| Fregion                    | T components     |                      |
| F replace                  | T tobesaved      |                      |
| Frightskip                 | T branches       |                      |
| F set                      | S name           |                      |
| F setall                   | S type           |                      |
| F setdim                   | variables        | table                |
| F setregionbox             | D checksums      |                      |
| D tobesaved                | D collected      |                      |
| F upperleft                | F getchecksum    |                      |
| F upperright               | F makechecksum   |                      |
| S used                     | F restore        |                      |
| F width                    | F save           |                      |
| Fx                         | F setchecksum    |                      |
| F xy                       | D tobesaved      |                      |

Fу

version

number

## lang (basic tex)

| clean                        | function | id               | function |
|------------------------------|----------|------------------|----------|
| <pre>clear_hyphenation</pre> | function | new              | function |
| clear_patterns               | function | patterns         | function |
| exceptions                   | function | postexhyphenchar | function |
| gethjcode                    | function | posthyphenchar   | function |
| hyphenate                    | function | preexhyphenchar  | function |
| hyphenation                  | function | prehyphenchar    | function |
| hyphenationmin               | function | sethjcode        | function |

## languages (context)

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

F found T methods
F load N threshold

#### layouts (context)

status table
 F isleftpage

F leftorrightpageaction

## lfs (extra lua)

| attributes | overloaded | function |
|------------|------------|----------|
| chdir      | overloaded | function |
| currentdir | function   |          |
| dir        | overloaded | function |
| isdir      | overloaded | function |
| isfile     | overloaded | function |
| lock       | function   |          |
| lock_dir   | overloaded | function |
| mkdir      | overloaded | function |

| mkdirs readlink rmdir setmode shortname symlinkattributes touch | function<br>overloaded<br>overloaded<br>overloaded<br>overloaded<br>overloaded | function<br>function<br>function<br>function |
|---|--|--|
| •   |  |  |

#### libraries (context)

| basiclua | data table |
|----------|------------|
| basictex | data table |
| builtin  | data table |
| extralua | data table |

extratex data table
functions data table
globals data table

#### lmx (context)

| color         | function |
|---------------|----------|
| convert       | function |
| convertfile   | function |
| convertstring | function |
| einject       | function |
| eprint        | function |
| escape        | function |
| finalized     | function |
| finject       | function |
| fprint        | function |
| get           | function |
| getvariables  | function |
| htmfile       | function |
| html          | table    |
| Fa            |          |
| F td          |          |
|               |          |

F th

include function inherited table

S color-background-four

S color-background-one

S color-background-three

S color-background-two

S title

initialize function inject function lmxfile function loadedfile function function make new function overloaderror function popupfile function print function pν function report function reset function result function set function show function showdebuginfo function showerror function stripcss function tν function function type function urlescape variable function table variables

- 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)

| application  | function | reportlines       | function |
|--------------|----------|-------------------|----------|
| categories   | function | setformats        | function |
| direct       | function | setformatters     | function |
| disable      | function | setlogfile        | function |
| enable       | function | setmessenger      | function |
| exporters    | table    | setprocessor      | function |
| extendbanner | function | setprogram        | function |
| flush        | function | settarget         | function |
| help         | function | settimedlog       | function |
| messenger    | function | settranslations   | function |
| new          | function | show              | function |
| newline      | function | show_close        | function |
| poptarget    | function | show_load         | function |
| pushtarget   | function | show_open         | function |
| report       | function | simple            | function |
| reportbanner | function | simpleline        | function |
| reporter     | function | simplelines       | function |
| reporters    | table    | start_page_number | function |
| F banner     |          | status            | function |
| F export     |          | stop_page_number  | function |
| F help       |          | subdirect         | function |
| F info       |          | subreport         | function |
| F lines      |          | system            | function |
| F version    |          | texerrormessage   | function |
| reportline   | function | writer            | function |

# lpdf (context)

|                          | £ 4.3      | finalianda sumant         | £          |
|--------------------------|------------|---------------------------|------------|
| action                   | function   | finalizedocument          | function   |
| adddocumentcolorspace    | function   | finalizepage              | function   |
| adddocumentextgstate     | function   | finishtransparencycode    | function   |
| adddocumentpattern       | function   | flushobject               | function   |
| adddocumentshade         | function   | flushstreamfileobject     | function   |
| addtocatalog             | function   | flushstreamobject         | function   |
| addtoinfo                | function   | formats                   | data table |
| addtonames               | function   | frompdfdoc                | function   |
| addtopageattributes      | function   | fromsixteen               | function   |
| addtopageresources       | function   | gethpos                   | function   |
| addtopagesattributes     | function   | getmatrix                 | function   |
| addxmpinfo               | function   | getpos                    | function   |
| annotationspecification  | function   | getvpos                   | function   |
| array                    | function   | graycode                  | function   |
| boolean                  | function   | hasmatrix                 | function   |
| border                   | function   | id                        | function   |
| checkedkey               | function   | injectxmpinfo             | function   |
| checkedvalue             | function   | insertxmpinfo             | function   |
| circularshade            | function   | layerreference            | function   |
| cmykcode                 | function   | limited                   | function   |
| collectedresources       | function   | linearshade               | function   |
| color                    | function   | nametree                  | function   |
| colorspace               | function   | null                      | function   |
| colorspaceconstants      | data table | number                    | function   |
| colorspec                | function   | pagereference             | function   |
| colorvalue               | function   | pdfcolor                  | function   |
| colorvalues              | function   | pdftimestamp              | function   |
| constant                 | function   | permitdetail              | function   |
| delayedobject            | function   | protectresources          | boolean    |
| destinationspecification | function   | rectangle                 | function   |
| dictionary               | function   | reference                 | function   |
| docstring                | function   | registerannotation        | function   |
| epdf                     | table      | registerdestination       | function   |
| F contenttotext          |            | registerdocumentfinalizer | function   |
| F expand                 |            | registerpagefinalizer     | function   |
| F expanded               |            | reserveobject             | function   |
| F getpagecontent         |            | rgbcode                   | function   |
| F getstructure           |            | rotationcm                | function   |
| F load                   |            | setdates                  | function   |
| F unload                 |            | settime                   | function   |
| escaped                  | function   | settrailerid              | function   |

| shareobject          | function | transform          | function |
|----------------------|----------|--------------------|----------|
| shareobjectreference | function | transparency       | function |
| spotcode             | function | transparencycode   | function |
| stream               | function | transparencygroups | table    |
| string               | function | B none             |          |
| timestamp            | function | transparencyvalue  | function |
| toeight              | function | unicode            | function |
| topdfdoc             | function | verbose            | function |
| tosixteen            | function |                    |          |

# lpeg (basic lua)

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

#### ltn12 (extra lua)

| BLOCKSIZE | number | F simplify |       |
|-----------|--------|------------|-------|
| filter    | table  | F table    |       |
| F chain   |        | source     | table |
| F cycle   |        | F cat      |       |
| pump      | table  | F chain    |       |
| F all     |        | F empty    |       |
| F step    |        | F error    |       |
| sink      | table  | F file     |       |
| F chain   |        | F rewind   |       |
| F error   |        | F simplify |       |
| F file    |        | F string   |       |
| F null    |        |            |       |

## lua (basic tex)

| bytecode                       | table      | lastbytecode      | number     |
|--------------------------------|------------|-------------------|------------|
| bytedata                       | data table | mask              | string     |
| bytedone                       | table      | messages          | data table |
| B page-cst                     |            | name              | table      |
| collectgarbage                 | function   | numbers           | data table |
| delay                          | function   | registercode      | function   |
| finalize                       | function   | registeredcodes   | function   |
| firstbytecode                  | number     | registerfinalizer | function   |
| flush                          | function   | registername      | function   |
| flushdelayed                   | function   | setbytecode       | function   |
| <pre>get_functions_table</pre> | function   | setluaname        | function   |
| getbytecode                    | function   | startupfile       | string     |
| getluaname                     | function   | version           | string     |

#### luatex (context)

cleanuptempfiles function
registerdumpactions function
registerpageactions function
registerstartactions function

registerstopactions registertempfile starttime function function number

## lxml (context)

|                 |            | <b>63</b> . I  |          |
|-----------------|------------|----------------|----------|
| addindex        | function   | flush          | function |
| all             | function   | flushlinewise  | function |
| applyfunction   | function   | flushsetups    | function |
| applyselectors  | function   | flushspacewise | function |
| att             | function   | get_id         | function |
| attribute       | function   | getid          | function |
| badinclusions   | function   | getindex       | function |
| chainattribute  | function   | id             | function |
| checkindex      | function   | idsplitter     | userdata |
| collected       | function   | include        | function |
| command         | function   | inclusion      | function |
| concat          | function   | inclusions     | function |
| concatrange     | function   | index          | function |
| content         | function   | inlineverbatim | function |
| context         | function   | installsetup   | function |
| convert         | function   | last           | function |
| count           | function   | lastatt        | function |
| delete          | function   | lastmatch      | function |
| direct          | function   | load           | function |
| directives      | table      | loadbuffer     | function |
| F after         |            | loaddata       | function |
| F before        |            | loaded         | table    |
| F handle        |            | main           | function |
| F load          |            | match          | function |
| F setup         |            | name           | function |
| displayverbatim | function   | namespace      | function |
| doif            | function   | nonspace       | function |
| doifelse        | function   | path           | function |
| doifelseempty   | function   | pos            | function |
| doifelsetext    | function   | position       | function |
| doifempty       | function   | pure           | function |
| doifnot         | function   | raw            | function |
| doifnotempty    | function   | rawroot        | function |
| doifnottext     | function   | rawtex         | function |
| doiftext        | function   | refatt         | function |
| element         | function   | register       | function |
| elements        | function   | registerentity | function |
| entities        | data table | removesetup    | function |
| filter          | function   | resetcdata     | function |
| filterlist      | function   | resetsetups    | function |
| first           | function   | resolvedentity | function |

| root             | function | startraw       | function   |
|------------------|----------|----------------|------------|
| save             | function | startunescaped | function   |
| serialize        | function | stopraw        | function   |
| setaction        | function | stopunescaped  | function   |
| setcdata         | function | store          | function   |
| setcommandtonone | function | strip          | function   |
| setcommandtotext | function | stripped       | function   |
| setsetup         | function | tag            | function   |
| snippet          | function | text           | function   |
| sorters          | table    | tobuffer       | function   |
| F add            |          | tofile         | function   |
| F compare        |          | toparameters   | function   |
| F flush          |          | toverbatim     | function   |
| F reset          |          | verbatim       | function   |
| F show           |          | withindex      | function   |
| F sort           |          | xmltexhandler  | data table |
| splitid          | function |                |            |

#### math (basic lua)

| abs         | function |
|-------------|----------|
| acos        | function |
| asin        | function |
| atan        | function |
| atan2       | function |
| ceil        | function |
| ceiling     | function |
| cos         | function |
| cosd        | function |
| cosh        | function |
| deg         | function |
| div         | function |
| even        | function |
| exp         | function |
| floor       | function |
| fmod        | function |
| frexp       | function |
| huge        | number   |
| initialseed | number   |
| ldexp       | function |
| log         | function |
|             |          |

| log10          | function |
|----------------|----------|
| max            | function |
| min            | function |
| mod            | function |
| modf           | function |
| odd            | function |
| pi             | number   |
| pow            | function |
| rad            | function |
| random         | function |
| randomseed     | function |
| round          | function |
| setrandomseedi | function |
| sin            | function |
| sind           | function |
| sinh           | function |
| sqrt           | function |
| tan            | function |
| tand           | function |
| tanh           | function |

#### mathematics (context)

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

#### mbox (context)

| parse         | function | parse_message | function |
|---------------|----------|---------------|----------|
| parse_from    | function | split_headers | function |
| parse_header  | function | split_mbox    | function |
| parse_headers | function | split_message | function |

## md5 (extra lua)

| HEX     | function | exor    | function |
|---------|----------|---------|----------|
| crypt   | function | hex     | function |
| dec     | function | sum     | function |
| decrypt | function | sumhexa | function |

## metapost (context)

| analyzonlugine                | function               | gottovt                | function           |
|-------------------------------|------------------------|------------------------|--------------------|
| analyzeplugins<br>checkformat | function               | gettext<br>graphic     | function           |
| checktexts                    | function               | graphic_base_pass      | function           |
| collapse                      | boolean                | initializescriptrunner | function           |
| colorinitializer              | function               | instance               | function           |
| convert                       | function               | intermediate           | table              |
| defaultformat                 |                        | T actions              | table              |
| defaultinstance               | string                 |                        |                    |
| defaultmethod                 | string                 | F makempy              | c+rina             |
| directrun                     | string<br>function     | lastlog<br>load        | string<br>function |
|                               | function               |                        | table              |
| escaped<br>exectime           | table                  | makempy                | table              |
|                               |                        | N nofconverted         |                    |
| extensiondata                 | data table<br>function | F processgraphics      |                    |
| filterclippath                | function               | F registerfile         | £                  |
| flush                         |                        | maketext               | function           |
| flushers                      | table                  | metafun                | table              |
| T pdf                         |                        | F interpolate          |                    |
| F comment                     |                        | F topath               |                    |
| F flushfigure                 |                        | method                 | number             |
| F startfigure                 |                        | mptopdf                | table              |
| F stopfigure                  |                        | F convertmpstopdf      |                    |
| F textfigure                  | £                      | N nofconverted         |                    |
| flushliteral                  | function               | n                      | number             |
| flushnormalpath               | function               | nvformat               | function           |
| flushreset                    | function               | optimize               | boolean            |
| fonts                         | table                  | parse                  | function           |
| F define                      |                        | pdfliterals            | function           |
| T flusher                     |                        | pluginactions          | function           |
| F flushfigure                 |                        | process                | function           |
| F startfigure                 |                        | processplugins         | function           |
| F stopfigure                  |                        | processspecial         | function           |
| N instances                   |                        | properties             | table              |
| F process                     |                        | quickanddirty          | function           |
| format                        | function               | reducetogray           | boolean            |
| format_number                 | function               | reporterror            | function           |
| format_string                 | function               | reset                  | function           |
| formatnumber                  | function               | resetlastlog           | function           |
| getclippath                   | function               | resetplugins           | function           |
| getextensions                 | function               | runscript              | function           |
| getjobdata                    | function               | scripterror            | function           |
| getstatistics                 | function               | setextensions          | function           |

| setoutercolor | function | F setfrombuffer |          |
|---------------|----------|-----------------|----------|
| settext       | function | texerrors       | boolean  |
| showlog       | boolean  | textextsdata    | function |
| simple        | function | theclippath     | function |
| svformat      | function | totable         | function |
| tex           | table    | unload          | function |
| F get         |          | untagvariable   | function |
| F reset       |          | variables       | table    |

F set

#### mime (extra lua)

| b64<br>decode<br>decodet | function<br>function<br>table | qp<br>qpwrp<br>stuff | function<br>function<br>function |
|--------------------------|-------------------------------|----------------------|----------------------------------|
| F base64                 |                               | unb64                | function                         |
| F quoted-                | printable                     | unqp                 | function                         |
| dot                      | function                      | wrap                 | function                         |
| encode                   | function                      | wrapt                | table                            |
| encodet                  | table                         | F base64             |                                  |
| F base64                 |                               | F defaul             | t                                |
| F quoted-                | printable                     | F quoted             | -printable                       |
| eol                      | function                      | F text               |                                  |
| normalize                | function                      | wrp                  | function                         |

## mp (context)

| BackSpace            | function | OverlayDepth            | function |
|----------------------|----------|-------------------------|----------|
| BaseLineSkip         | function | OverlayHeight           | function |
| BodyFontSize         | function | <b>OverlayLineWidth</b> | function |
| BottomDistance       | function | <b>OverlayOffset</b>    | function |
| BottomHeight         | function | OverlayWidth            | function |
| BottomSpace          | function | PageDepth               | function |
| CurrentColumn        | function | PageFraction            | function |
| CurrentHeight        | function | PageNumber              | function |
| CurrentWidth         | function | PageOffset              | function |
| CutSpace             | function | PaperBleed              | function |
| EmWidth              | function | PaperHeight             | function |
| ExHeight             | function | PaperWidth              | function |
| FooterDistance       | function | PrintPaperHeight        | function |
| FooterHeight         | function | PrintPaperWidth         | function |
| HSize                | function | RealPageNumber          | function |
| HeaderDistance       | function | RightEdgeDistance       | function |
| HeaderHeight         | function | RightEdgeWidth          | function |
| InPageBody           | function | RightMarginDistance     | function |
| InnerEdgeDistance    | function | RightMarginWidth        | function |
| InnerEdgeWidth       | function | SpineWidth              | function |
| InnerMarginDistance  | function | StrutDepth              | function |
| InnerMarginWidth     | function | StrutHeight             | function |
| LastPageNumber       | function | TextHeight              | function |
| LayoutColumnDistance | function | TextWidth               | function |
| LayoutColumnWidth    | function | TopDistance             | function |
| LayoutColumns        | function | TopHeight               | function |
| LeftEdgeDistance     | function | TopSkip                 | function |
| LeftEdgeWidth        | function | TopSpace                | function |
| LeftMarginDistance   | function | VSize                   | function |
| LeftMarginWidth      | function | _f_                     | function |
| LineHeight           | function | boolean                 | function |
| MakeupHeight         | function | dataset                 | function |
| MakeupWidth          | function | datasets                | table    |
| <b>NOfColumns</b>    | function | F load                  |          |
| NOfPages             | function | defaultcolormodel       | function |
| OnOddPage            | function | format                  | function |
| OnRightPage          | function | formatted               | function |
| OuterEdgeDistance    | function | get                     | table    |
| OuterEdgeWidth       | function | F boolean               |          |
| OuterMarginDistance  | function | F number                |          |
| OuterMarginWidth     | function | F numeric               |          |

|          | quoted  | function   |
|----------|---|--|
| function | report  | function   |
| function | size  | function   |
| function | triplet   | function   |
| function | tt_dimensions   | function   |
| function | tt_initialize   | function   |
| function |   |  |
| function |   |  |
| function |   |  |
|          | function function function function function function | function report function size function triplet function tt_dimensions function tt_initialize function function |

#### mplib (extra tex)

fields function
finder function
finders table

F file

get\_boolean function
get number function

get\_numeric function
get\_string function

**new** overloaded function

pen\_info function
preprocessed function
version function

#### noads (context)

| handlers     | table | F unscript      |          |
|--------------|-------|-----------------|----------|
| F alternates |       | F variants      |          |
| F autofences |       | process         | function |
| F classes    |       | processnested   | function |
| F collapse   |       | processors      | table    |
| F domains    |       | T autofences    |          |
| F families   |       | T collapse      |          |
| F italics    |       | F mlist_to_hlis | st       |
| F relocate   |       | T relocate      |          |
| F render     |       | T render        |          |
| F resize     |       | T resize        |          |
| F showtree   |       | T unscript      |          |
| F tags       |       | processouter    | function |

#### node (basic tex)

function copy F insert before function copy list F is char count function F is\_direct current attr function F is alvoh dimensions function F is node direct table F is\_zero\_glue F copy F kerning F copy list F last node F count F length F current attr F ligaturing F dimensions F new F do ligature n F protect\_glyph F effective glue F protect glyphs F end\_of\_math F protrusion skippable F find attribute F remove F first\_glyph F set attribute F flush\_list F set\_properties\_mode F flush node F setboth F setbox F flush properties table F free F setchar F get\_attribute F setdisc F get properties table F setfield F setalue F getboth F setleader F getbox F getchar F setlink F getdisc F setlist F getfield F setnext F getfont F setprev F getglue F setproperty F getid F setsubtype F getleader F slide F tail F getlist F getnext F todirect F getprev F tonode F getproperty F tostring F getsubtype F traverse F has attribute F traverse char F has\_field F traverse id F has\_glyph F unprotect\_glyphs F hpack F unset attribute F insert\_after F usedlist

| F vpack                |          | is_zero_glue         | function |
|------------------------|----------|----------------------|----------|
| F write                |          | kerning              | function |
| do_ligature_n          | function | last_node            | function |
| effective_glue         | function | length               | function |
| end_of_math            | function | ligaturing           | function |
| family_font            | function | mlist_to_hlist       | function |
| fields                 | function | new                  | function |
| find_attribute         | function | next                 | function |
| first_glyph            | function | prev                 | function |
| flush_list             | function | protect_glyph        | function |
| flush_node             | function | protect_glyphs       | function |
| flush_properties_table | function | protrusion_skippable | function |
| free                   | function | remove               | function |
| get_attribute          | function | set_attribute        | function |
| get_properties_table   | function | set_properties_mode  | function |
| getboth                | function | setboth              | function |
| getchar                | function | setfield             | function |
| getdisc                | function | setglue              | function |
| getfield               | function | setlink              | function |
| getfont                | function | setnext              | function |
| getglue                | function | setprev              | function |
| getid                  | function | setproperty          | function |
| getleader              | function | slide                | function |
| getlist                | function | subtype              | function |
| getnext                | function | subtypes             | function |
| getprev                | function | tail                 | function |
| getproperty            | function | tostring             | function |
| getsubtype             | function | traverse             | function |
| has_attribute          | function | traverse_char        | function |
| has_field              | function | traverse_id          | function |
| has_glyph              | function | type                 | function |
| hpack                  | function | types                | function |
| id                     | function | unprotect_glyphs     | function |
| insert_after           | function | unset_attribute      | function |
| insert_before          | function | usedlist             | function |
| is_char                | function | vpack                | function |
| is_glyph               | function | whatsits             | function |
| is_node                | function | write                | function |

#### nodes (context)

| accentcodes        | data table | fullhpack              | function   |
|--------------------|------------|------------------------|------------|
| aligned            | function   | getbox                 | function   |
| append             | function   | getchar                | function   |
| astable            | function   | getdisc                | function   |
| basepoints         | function   | getfield               | function   |
| boundarycodes      | data table | getfont                | function   |
| builders           | table      | getglue                | function   |
| F buildpage_filter |            | getid                  | function   |
| F vpack_filter     |            | getleader              | function   |
| codes              | data table | getlist                | function   |
| concat             | function   | getnext                | function   |
| сору               | function   | getprev                | function   |
| copy_list          | function   | getskip                | function   |
| count              | function   | getsubtype             | function   |
| current attr       | function   | gluecodes              | data table |
| _<br>delete        | function   | glyphcodes             | data table |
| destinations       | table      | glyphdir_is_equal      | data table |
| N attribute        |            | glyphdir_is_opposite   | data table |
| T done             |            | glyphdir is orthogonal | data table |
| F handler          |            | handlers               | table      |
| T stack            |            | F accessibility        |            |
| dimensionfields    | data table | F alignbackgrounds     |            |
| dimensions         | function   | F backgrounds          |            |
| dir_is_pop         | data table | F characters           |            |
| dir_negation       | data table | F checkforleaks        |            |
| disccodes          | data table | F checkglyphs          |            |
| discretionarycodes | data table | F cleanupbox           |            |
| do_ligature_n      | function   | F cleanuppage          |            |
| effective_glue     | function   | F export               |            |
| end_of_math        | function   | F finalize             |            |
| fencecodes         | data table | F migrate              |            |
| fields             | function   | F protectglyphs        |            |
| fillcodes          | data table | F stripping            |            |
| first_glyph        | function   | F unprotectglyphs      |            |
| firstcharacter     | function   | has_attribute          | function   |
| firstcharinbox     | function   | has_field              | function   |
| firstdirinbox      | function   | has_glyph              | function   |
| firstglyph         | function   | hpack                  | function   |
| flush_list         | function   | idstostring            | function   |
| flush_node         | function   | ignorablefields        | data table |
| free               | function   | injections             | table      |
|                    |            |                        |            |

| F copy                  |            | F setup           |            |
|-------------------------|------------|-------------------|------------|
| F getligaindex          |            | F stage_one       |            |
| F handler               |            | F stage_two       |            |
| F installnewkern        |            | D data            |            |
| F keepcounts            |            | F finalize        |            |
| Freset                  |            | F number          |            |
| F resetcounts           |            | N scratchbox      |            |
| F setcursive            |            | link              | function   |
| F setkern               |            | linked            | function   |
| F setligaindex          |            | list              | function   |
| F setmark               |            | listablefields    | data table |
| F setpair               |            | listcodes         | data table |
| F setspacekerns         |            | listtoutf         | function   |
| insert_after            | function   | load              | function   |
| insert_before           | function   | locate            | function   |
| insert_list_after       | function   | margincodes       | data table |
| installattributehandler | function   | marginkerncodes   | data table |
| is_char                 | function   | markers           | table      |
| is_direct               | function   | F get             |            |
| is_display_math         | function   | mathcodes         | data table |
| is_glyph                | function   | maxboxwidth       | function   |
| is_mirrored             | data table | mlist_to_hlist    | function   |
| is_node                 | function   | new               | function   |
| is_nut                  | function   | noadcodes         | data table |
| is_rotated              | data table | nodecodes         | data table |
| is_zero_glue            | function   | nopts             | function   |
| ischar                  | function   | nuts              | table      |
| isglyph                 | function   | F append          |            |
| kerncodes               | data table | F concat          |            |
| kerning                 | function   | F copy            |            |
| keys                    | table      | F copy_list       |            |
| T whatsit               |            | F copy_properties |            |
| last_node               | function   | F copyvisual      |            |
| leadercodes             | data table | F count           |            |
| leftmarginwidth         | function   | F current_attr    |            |
| ligaturing              | function   | F delete          |            |
| linefillers             | table      | F dimensions      |            |
| D data                  |            | F do_ligature_n   |            |
| F define                |            | F effective_glue  |            |
| F enable                |            | F end_of_math     |            |
| F handler               |            | F first_glyph     |            |
| lines                   | table      | F firstcharacter  |            |
| T boxed                 |            | F firstcharinbox  |            |
| F register              |            | F firstglyph      |            |
|                         |            |                   |            |

F flush list F mlist\_to\_hlist F flush\_node F nestedtracedslide F free F new F fullhpack T pool F getattr F baselineskip F getattribute F boundary F aetboth F cleanup F aetbox F disc F getchar F emptyrule F getdisc F fontkern F getfield F glue F getfont F gluespec F getglue F glyph F hlist F getid F getleader F italickern F getlist F kern F getnext F latelua F lateluafunction F getprev F leftmarginkern F getprop F getskip F leftskip F getsubtype F lineskip F has\_attribute F negatedglue F has\_field F noad F has\_glyph F pdfannotation F hpack F pdfdestination F insert\_after F pdfdirect F insert\_before F pdfliteral F insert list after F pdfrestore F is char F pdfsave F pdfsetmatrix F is\_direct F is\_display\_math F penalty F is glyph F register F is node F rightmarginkern F is\_nut F rightskip F rule F is\_zero\_glue Fischar F shrink F special F isqlyph F kerning F stretch F last\_node F temp F leftmarginwidth F textdir F ligaturing F usage F link F userattributes T userids F linked F locate N margins.inline

| N property             | F somespace         |            |
|------------------------|---------------------|------------|
| N splitters.one        | F splitbox          |            |
| N splitters.two        | F tail              |            |
| F userlist             | F takebox           |            |
| F userlua              | F takelist          |            |
| F usernumber           | F theprop           |            |
| F userrule             | F tonode            |            |
| F userstring           | F tonodes           |            |
| F usertokens           | F tonut             |            |
| F vlist                | F tosequence        |            |
| F wordboundary         | F tostring          |            |
| F zeroglue             | F tracedslide       |            |
| F prepend              | F traverse          |            |
| F protect_glyph        | F traverse_char     |            |
| F protect_glyphs       | F traverse_id       |            |
| F protrusion_skippable | T typesetters       |            |
| F rawprop              | F tohbox            |            |
| F reference            | F tohpack           |            |
| F remove               | F tonodes           |            |
| F repackhlist          | F tovbox            |            |
| F replace              | F tovpack           |            |
| F rightmarginwidth     | F unprotect_glyphs  |            |
| F set_attribute        | F unset_attribute   |            |
| F setattr              | F unsetattribute    |            |
| F setattribute         | F unsetattributes   |            |
| F setattributes        | F untracedslide     |            |
| F setboth              | F usedlist          |            |
| F setbox               | F vianodes          |            |
| F setchar              | F vianuts           |            |
| F setdisc              | F vpack             |            |
| F setfield             | F write             |            |
| F setglue              | packlist            | function   |
| F setleader            | pardir_is_equal     | data table |
| F setlink              | pardir_is_opposite  | data table |
| F setlist              | pardir_is_parallel  | data table |
| F setnext              | partextdir_is_equal | data table |
| F setprev              | penaltycodes        | data table |
| F setprop              | plugindata          | table      |
| F setsubtype           | F finalizer         |            |
| F setunsetattributes   | F initializer       |            |
| F setvisual            | S name              |            |
| F setvisuals           | T namespace         |            |
| F slide                | N attribute         |            |
| F somepenalty          | D data              |            |
|                        |                     |            |

| F enable                |          | protrusion_skippable | function   |
|-------------------------|----------|----------------------|------------|
| F handler               |          | pts                  | function   |
| F register              |          | radicalcodes         | data table |
| D registered            |          | reference            | function   |
| D values                |          | references           | table      |
| F processor             |          | N attribute          |            |
| points                  | function | T done               |            |
| pool                    | table    | F handler            |            |
| F baselineskip          |          | T stack              |            |
| F cleanup               |          | remove               | function   |
| F glyph                 |          | repackhlist          | function   |
| F kern                  |          | replace              | function   |
| F latelua               |          | report               | function   |
| F lateluafunction       |          | rightmarginwidth     | function   |
| F lineskip              |          | rulecodes            | data table |
| F pdfdirect             |          | rules                | table      |
| F pdfliteral            |          | D data               |            |
| F pdfrestore            |          | F define             |            |
| F pdfsave               |          | F enable             |            |
| F pdfsetmatrix          |          | F handler            |            |
| F register              |          | T ruleactions        |            |
| F rule                  |          | F draw               |            |
| F special               |          | F fill               |            |
| F usage                 |          | F mp                 |            |
| F usernumber            |          | F stroke             |            |
| prepend                 | function | F userrule           |            |
| print                   | function | save                 | function   |
| processors              | table    | serialize            | function   |
| B enabled               |          | serializebox         | function   |
| F hpack_filter          |          | set_attribute        | function   |
| F post_linebreak_filter |          | setattributes        | function   |
| F pre_linebreak_filter  |          | setbox               | function   |
| F tracer                |          | setboxtonaturalwd    | function   |
| processwords            | function | setfield             | function   |
| properties              | table    | setglue              | function   |
| T actions               |          | setunsetattributes   | function   |
| F delayed               |          | shifts               | table      |
| F fdelayed              |          | D data               |            |
| F immediate             |          | F define             |            |
| F attach                |          | F enable             |            |
| T data                  |          | F handler            |            |
| F delayed               |          | show                 | function   |
| protect_glyph           | function | showboxes            | function   |
| protect_glyphs          | function | showcodes            | function   |

| showlist             | function   | todimen           | function |
|----------------------|------------|-------------------|----------|
| showsimplelist       | function   | toinches          | function |
| skipcodes            | data table | tomillimeters     | function |
| slide                | function   | tonewciceros      | function |
| snapshots            | table      | tonewdidots       | function |
| F getparameters      |            | tonode            | function |
| F getsamples         |            | tonodes           | function |
| F resetsamples       |            | tonut             | function |
| F takesample         |            | topicas           | function |
| somepenalty          | function   | topoints          | function |
| somespace            | function   | toscaledpoints    | function |
| splitbox             | function   | tosequence        | function |
| stripdiscretionaries | function   | tostring          | function |
| stripping            | table      | totable           | function |
| T glyphs             |            | totree            | function |
| F set                |            | toutf             | function |
| striprange           | function   | tracers           | table    |
| tail                 | function   | T characters      |          |
| takebox              | function   | F collect         |          |
| tasks                | table      | F equal           |          |
| F actions            |            | F start           |          |
| F appendaction       |            | F string          |          |
| F disableaction      |            | F unicodes        |          |
| F disablegroup       |            | T colors          |          |
| F enableaction       |            | F reset           |          |
| F enablegroup        |            | F set             |          |
| F freeze             |            | F setlist         |          |
| F freezegroup        |            | F fontchar        |          |
| F new                |            | T frequencies     |          |
| F prependaction      |            | F register        |          |
| F removeaction       |            | T pool            |          |
| F replaceaction      |            | T nodes           |          |
| F restart            |            | F rule            |          |
| F setaction          |            | T nuts            |          |
| F showactions        |            | F rule            |          |
| F table              |            | F resetproperties |          |
| textdir_is_equal     | data table | F rule            |          |
| textdir_is_is        | data table | F setlist         |          |
| textdir_is_opposite  | data table | F setproperties   |          |
| textdir_is_parallel  | data table | F start           |          |
| tobasepoints         | function   | T steppers        |          |
| tocentimeters        | function   | F check           |          |
| tociceros            | function   | F codes           |          |
| todidots             | function   | F features        |          |
|                      |            |                   |          |

| F     | font          |          | unset_attribute | function   |
|-------|---------------|----------|-----------------|------------|
| F     | glyphs        |          | unsetattribute  | function   |
| F     | message       |          | unsetattributes | function   |
| F     | messages      |          | usedlist        | function   |
| F     | nofsteps      |          | usercodes       | data table |
| F     | register      |          | vianodes        | function   |
| F     | reset         |          | vianuts         | function   |
| F     | start         |          | visualizebox    | function   |
| F     | stop          |          | visualizers     | table      |
| Fs    | top           |          | F box           |            |
| Τt    | ransparencies |          | F handler       |            |
| F     | reset         |          | F markfonts     |            |
| F     | set           |          | F setfont       |            |
| F     | setlist       |          | F setlayer      |            |
| trave | rse           | function | F setvisual     |            |
| trave | rse_char      | function | vpack           | function   |
| trave | rse_id        | function | whatcodes       | data table |
| types | etters        | table    | whatsitcodes    | data table |
| Fh    | box           |          | whatsitters     | table      |
| Fh    | pack          |          | T getters       |            |
| Ft    | ohbox         |          | T dimensions    |            |
| Ft    | ohpack        |          | T width         |            |
| Ft    | onodes        |          | T setters       |            |
| Ft    | ovbox         |          | T dimensions    |            |
| Ft    | ovpack        |          | T width         |            |
| Fv    | pack          |          | write           | function   |
|       |               |          |                 |            |

unprotect\_glyphs function

## number (context)

|                | function   | tobitstring    | function |
|----------------|------------|----------------|----------|
| basepoints     | function   | tocentimeters  | function |
| bit            | function   | tociceros      | function |
| bits           | function   | todidots       | function |
| clearbit       | function   | todimen        | function |
| dimenfactors   | data table | toevenhex      | function |
| formatted      | function   | toinches       | function |
| hasbit         | function   | tomillimeters  | function |
| maxdimen       | number     | tonewciceros   | function |
| nopts          | function   | tonewdidots    | function |
| percent        | function   | tonumberf      | function |
| points         | function   | tonumberg      | function |
| pts            | function   | topicas        | function |
| setbit         | function   | topoints       | function |
| signed         | function   | toscaled       | function |
| sparseexponent | function   | toscaledpoints | function |
| splitdimen     | function   | toset          | function |
| tobasepoints   | function   | valid          | function |
|                |            |                |          |

# objects (context)

| data       | table    | page      | function |
|------------|----------|-----------|----------|
| dimensions | function | reference | function |
| found      | function | register  | function |
| n          | number   | restore   | function |

## os (basic lua)

| getenv       | function            | remove    | overloaded function |
|--------------|---------------------|-----------|---------------------|
| setenv       | function            | rename    | overloaded function |
| binsuffix    | string              | resolvers | table               |
| binsuffixes  | table               | F bits    |                     |
| clock        | function            | resultof  | function            |
| converttime  | function            | runtime   | function            |
| date         | function            | selfdir   | string              |
| difftime     | function            | setenv    | overloaded function |
| env          | data table          | setlocale | overloaded function |
| exec         | overloaded function | sleep     | function            |
| execute      | overloaded function | spawn     | overloaded function |
| exit         | function            | time      | function            |
| fulltime     | function            | times     | function            |
| getenv       | overloaded function | timezone  | function            |
| gettimeofday | function            | tmpdir    | function            |
| isleapyear   | function            | tmpname   | function            |
| launch       | function            | today     | function            |
| libsuffix    | string              | type      | string              |
| localtime    | function            | uname     | function            |
| name         | string              | uuid      | function            |
| newline      | string              | validdate | function            |
| nofdays      | function            | weekday   | function            |
| now          | function            | where     | function            |
| platform     | string              | which     | function            |

# package (basic lua)

| config        | string   | loaded     | table    |
|---------------|----------|------------|----------|
| cpath         | string   | loaders    | table    |
| extralibpath  | function | loadlib    | function |
| extralibpaths | function | luapaths   | function |
| extraluapath  | function | path       | string   |
| extraluapaths | function | preload    | table    |
| helpers       | table    | searchpath | function |
| libpaths      | function | seeall     | function |

# pagebuilders (context)

| columnsets table | F sethsize              |
|------------------|-------------------------|
| F add            | F sethspan              |
| F block          | F setlines              |
| F check          | F setproperties         |
| F currentcolumn  | F setstart              |
| F define         | F setvsize              |
| F finishflush    | <b>injections</b> table |
| F flushareas     | F flushafter            |
| F flushcolumn    | F flushbefore           |
| F flushrest      | F save                  |
| F goto           | mixedcolumns table      |
| F noto           | F cleanup               |
| F prepareflush   | F finalize              |
| F put            | F getlist               |
| F registerarea   | F getrest               |
| F reset          | F getsplit              |
| F setarea        | F setsplit              |

# pdf (basic tex)

| fontname                | function | immediateobj            | function            |
|-------------------------|----------|-------------------------|---------------------|
| fontobjnum              | function | mapfile                 | function            |
| fontsize                | function | mapline                 | function            |
| getcatalog              | function | maxobjnum               | function            |
| getcompresslevel        | function | newcolorstack           | function            |
| getdecimaldigits        | function | obj                     | function            |
| getdestmargin           | function | objtype                 | function            |
| gethpos                 | function | pageref                 | function            |
| getignoreunknownimages  | function | print                   | function            |
| getinclusionerrorlevel  | function | refobj                  | function            |
| getinfo                 | function | registerannot           | overloaded function |
| getlastannot            | function | reserveobj              | function            |
| getlastlink             | function | setcatalog              | overloaded function |
| getlastobj              | function | setcompresslevel        | function            |
| getlinkmargin           | function | setdecimaldigits        | function            |
| getmajorversion         | function | setdestmargin           | function            |
| getmatrix               | function | setignoreunknownimages  | function            |
| getminorversion         | function | setinclusionerrorlevel  | function            |
| getnames                | function | setinfo                 | overloaded function |
| getobjcompresslevel     | function | setlinkmargin           | function            |
| getorigin               | function | setmajorversion         | function            |
| getpageattributes       | function | setminorversion         | function            |
| getpageresources        | function | setnames                | overloaded function |
| getpagesattributes      | function | setobjcompresslevel     | function            |
| getpkresolution         | function | setorigin               | function            |
| getpos                  | function | setpageattributes       | overloaded function |
| getretval               | function | setpageresources        | overloaded function |
| getsuppressoptionalinfo |          | setpagesattributes      | overloaded function |
| getthreadmargin         | function | setpkresolution         | function            |
| gettrailer              | function | setsuppressoptionalinfo | function            |
| gettrailerid            | function | setthreadmargin         | function            |
| getversion              | function | settrailer              | overloaded function |
| getvpos                 | function | settrailerid            | function            |
| getxformattributes      | function | setxformattributes      | function            |
| getxformmargin          | function | setxformmargin          | function            |
| getxformresources       | function | setxformresources       | function            |
| hasmatrix               | function | xformname               | function            |

# pdfscanner (context)

scan function

# physics (context)

units table

D tables

F registerunit

### profiler (extra lua)

## publications (context)

| addtexentry          | function   | S author     |
|----------------------|------------|--------------|
| analyze              | function   | T categories |
| anywhere             | function   | T article    |
| authorcache          | data table | S category   |
| authorcollapsers     | data table | T extra      |
| authorhashers        | table      | T fields     |
| F invertedshort      |            | S author     |
| F normal             |            | S editor     |
| F normalinverted     |            | S journal    |
| F normalshort        |            | S keywords   |
| F short              |            | S number     |
| authormap            | data table | S pages      |
| authortoregister     | function   | S title      |
| casters              | table      | S volume     |
| F author             |            | S year       |
| F keyword            |            | T optional   |
| F pagenumber         |            | T required   |
| F range              | _          | T sets       |
| checkeddataset       | function   | T author     |
| citevariants         | table      | T virtual    |
| F author             |            | T book       |
| F authornum          |            | S category   |
| F authoryear         |            | T extra      |
| F authoryears        |            | T fields     |
| F category           |            | S address    |
| F default            |            | S author     |
| F entry              |            | S edition    |
| F index              |            | S editor     |
| F keywords           |            | S keywords   |
| F num                |            | S number     |
| F page               |            | S publisher  |
| F short              |            | S subtitle   |
| F tag                |            | S title      |
| F textnum            |            | S volume     |
| F year               |            | S year       |
| collected            | data table | T optional   |
| components           | table      | T required   |
| F author             |            | T sets       |
| concatstate          | function   | T author     |
| converttoxml         | function   | T editionset |
| currentspecification | table      | T 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 | datasets         | table      |
| S subtitle     | detailed         | table      |
| S title        | endnotes_to_btx  | function   |
| S year         | enhancer         | table      |
| T optional     | S arguments      |            |
| T required     | T askip          |            |
| T sets         | B dirty          |            |
| T author       | T gskip          |            |
| T virtual      | T kind           |            |
| T demo-b       | T list           |            |
| S category     | T system         |            |
| T extra        | T order          |            |
| T fields       | enhancers        | table      |
| S author       | F details        |            |
| S institution  | F order          |            |
| S organization | F suffixes       |            |
| S subtitle     | finder           | function   |
| S title        | firstofrange     | function   |
| S year         | found            | function   |
| T optional     | get              | function   |
| T required     | getcasted        | function   |
| T sets         | getdetail        | function   |
| T authors      | getdirect        | function   |
| T virtual      | getfaster        | function   |
| S comment      | getfield         | function   |
| S copyright    | getfuzzy         | function   |
| T fields       | getindex         | function   |
| S name         | inspectors       | data table |
| T types        | journals         | table      |
| S author       | F abbreviated    |            |
| S editor       | F add            |            |
| S keywords     | F expanded       |            |
| S number       | F load           |            |
| S page         | F save           |            |
| S pages        | lastofrange      | function   |
| S volume       | lists            | table      |
| S version      | F collectentries |            |
| D virtual      | F combiinlist    |            |

| F fetchentries  |                               | okay   | function                            |
|---|-------------------------------|--|-------------------------------------|
| F filterall   |                               | oneorrange   | function                            |
| F flushcombi  |                               | parenttag  | function                            |
| F flushentry  |                               | permitted  | function                            |
| T methods   |                               | refman_to_btx  | function                            |
| F dataset   |                               | resolvedname   | function                            |
| F force   |                               | save   | function                            |
| F global  |                               | search   | function                            |
| F local   |                               | setcategory  | function                            |
| F nofregistered   |                               | setspecification   | function                            |
| F prepareentries  |                               | singularorplural   | function                            |
| F register  |                               | sortedentries  | function                            |
| F sameasprevious  |                               | sortmethods  | table                               |
| T sorters   |                               | T authoryear   |                                     |
| F cite  |                               | T sequence   |                                     |
| F dataset   |                               | specifications   | table                               |
| F default   |                               | T default  |                                     |
| F index   |                               | S author   |                                     |
| F list  |                               | S comment  |                                     |
| F reference   |                               | S copyright  |                                     |
| F short   |                               | S name   |                                     |
| F used  |                               | S version  |                                     |
| F uservariable  |                               | D virtual  |                                     |
| listvariants  | table                         | splitauthor  | function                            |
|   |                               |  |                                     |
| F default   |                               | splitoneauthor   | function                            |
| F default<br>F index  |                               | splitoneauthor<br>statistics   | function<br>table                   |
|   |                               |  |                                     |
| Findex  |                               | statistics   |                                     |
| F index   |                               | statistics<br>N nofbytes   |                                     |
| F index F num F page F short F tag  |                               | Statistics  N nofbytes  N nofdatasets  N nofdefinitions  N nofshortcuts  | table                               |
| F index F num F page F short F tag  load  | function                      | statistics N nofbytes N nofdatasets N nofdefinitions   |                                     |
| F index F num F page F short F tag load   | function                      | Statistics  N nofbytes  N nofdatasets  N nofdefinitions  N nofshortcuts  | table                               |
| Findex F num F page F short F tag load loadbibdata loaddefinitionfile   | function<br>function          | statistics N nofbytes N nofdatasets N nofdefinitions N nofshortcuts tables   | table                               |
| F index F num F page F short F tag load   | function                      | statistics  N nofbytes  N nofdatasets  N nofdefinitions  N nofshortcuts  tables  D implicits   | table                               |
| Findex F num F page F short F tag load loadbibdata loaddefinitionfile   | function<br>function          | statistics  N nofbytes  N nofdatasets  N nofdefinitions  N nofshortcuts  tables  D implicits  D origins  | table                               |
| F index F num F page F short F tag load loadbibdata loaddefinitionfile loaders  | function<br>function          | statistics  N nofbytes  N nofdatasets  N nofdefinitions  N nofshortcuts  tables  D implicits  D origins  D privates  | table                               |
| F index F num F page F short F tag load loadbibdata loaddefinitionfile loaders F bbl  | function<br>function          | statistics N nofbytes N nofdatasets N nofdefinitions N nofshortcuts tables D implicits D origins D privates D sets   | table                               |
| F index F num F page F short F tag load loadbibdata loaddefinitionfile loaders F bbl F bib  | function<br>function          | N nofbytes N nofdatasets N nofdefinitions N nofshortcuts tables D implicits D origins D privates D sets D specials   | table                               |
| Findex F num F page F short F tag load loadbibdata loaddefinitionfile loaders F bbl F bib F buffer F endnote F lua                                  | function<br>function          | statistics  N nofbytes N nofdatasets N nofdefinitions N nofshortcuts tables D implicits D origins D privates D sets D specials D types D virtuals tags   | table<br>table                      |
| Findex F num F page F short F tag load loadbibdata loaddefinitionfile loaders F bbl F bib F buffer F endnote  | function<br>function          | N nofbytes N nofdatasets N nofdefinitions N nofshortcuts tables D implicits D origins D privates D sets D specials D types D virtuals  | table                               |
| Findex F num F page F short F tag load loadbibdata loaddefinitionfile loaders F bbl F bib F buffer F endnote F lua F refman F registercleaner       | function<br>function          | N nofbytes N nofdatasets N nofdefinitions N nofshortcuts tables D implicits D origins D privates D sets D specials D types D virtuals tags tracers F showdatasetauthors                        | table<br>table<br>function<br>table |
| Findex F num F page F short F tag load loadbibdata loaddefinitionfile loaders F bbl F bib F buffer F endnote F lua F refman F registercleaner F xml | function<br>function<br>table | N nofbytes N nofdatasets N nofdefinitions N nofshortcuts tables D implicits D origins D privates D sets D specials D types D virtuals tags tracers F showdatasetauthors F showdatasetcompleter | table<br>table<br>function<br>table |
| Findex F num F page F short F tag load loadbibdata loaddefinitionfile loaders F bbl F bib F buffer F endnote F lua F refman F registercleaner       | function<br>function          | N nofbytes N nofdatasets N nofdefinitions N nofshortcuts tables D implicits D origins D privates D sets D specials D types D virtuals tags tracers F showdatasetauthors                        | table<br>table<br>function<br>table |

F showfields

F showhashedauthors

F showtables

F showvariants

typesetters

F author F string table

F range

usedataset

usedentries

F author

F keyword F pagenumber

writers

function function table

## regimes (context)

| cleanup    | function | process   | function |
|------------|----------|-----------|----------|
| disable    | function | push      | function |
| enable     | function | toregime  | function |
| fromregime | function | translate | function |
| рор        | function |           |          |

## resolvers (context)

| allprefixes                              | function            | findtexfile             | function   |
|--|---------------------|-------------------------|------------|
| appendhash                               | function            | findwildcardfile        | function   |
| automount                                | function            | findwildcardfiles       | function   |
| automounted                              | table               | formatofsuffix          | function   |
| booleanvariable                          | function            | formatofvariable        | function   |
| cacheversion                             | string              | formats                 | data table |
| checkedvariable                          | function            | generators              | data table |
| cleanedpathlist                          | function            | get_from_content        | function   |
| cleanpath                                | function            | getenv                  | function   |
| cleanpathlist                            | function            | getownpath              | function   |
| concatinators                            | data table          | getreadfilename         | function   |
| configbanner                             | string              | hashers                 | data table |
| criticalvars                             | data table          | homedir                 | string     |
| dangerous                                | data table          | inputstack              | table      |
| datastate                                | function            | installinputfilehandler | function   |
| defaultsuffixes                          | table               | installinputlinehandler | function   |
| dowithfilesandreport                     | function            | instance                | table      |
| dowithfilesintree                        | function            | D data                  |            |
| dowithpath                               | function            | B diskcache             |            |
| dowithvariable                           | function            | D environment           |            |
| env                                      | function            | D expansions            |            |
| executers                                | table               | D fakepaths             |            |
| expandbraces                             | function            | D files                 |            |
| expandedpathfromlist                     | function            | B force_suffixes        |            |
| expandedpathlist                         | function            | D found                 |            |
| ${\it expanded path list from variable}$ | function            | D foundintrees          |            |
| expandpath                               | function            | D hashed                |            |
| expandpathfromvariable                   | function            | D hashes                |            |
| expansion                                | function            | D lists                 |            |
| extendtexmfvariable                      | function            | B loaderror             |            |
| filtered_from_content                    | function            | D order                 |            |
| find_file                                | function            | D pathlists             |            |
| find_files                               | <del>function</del> | T pathstack             |            |
| findbinfile                              | function            | B remember              |            |
| findctxfile                              | function            | B renewcache            |            |
| finders                                  | data table          | B renewtree             |            |
| findfile                                 | function            | B savelists             |            |
| findfiles                                | function            | D setups                |            |
| findgivenfile                            | function            | D specification         |            |
| findgivenfiles                           | function            | D variables             |            |
| findpath                                 | function            | jobpath                 | function   |

| F currentcomponent F currentproduct F currentproject F currentproject F justacomponent F currentproject F justacomponent F currentproject F justacomponent F productromponent F productromponent F productromponent F productromponent F usefile Joinpath Load   | jobs                 | table      | registerextrapath  | function   |
|--|----------------------|------------|--------------------|------------|
| F currentproduct F currentproduct F currentproject F currentproject F currentproject F currentproject F currentproject F justacomponent F justacomponent F productcomponent F productcomponent F usefile Joinpath Load   | F currentcomponent   |            | •                  | function   |
| F currentproduct F currentproject F currentproject F currentproject F currentproject F justacomponent D processors F productcomponent F usefile F usefile F unction I oad F unction I oad F unction I oad I  | F currentenvironment |            | _                  | function   |
| F currentproject F justacomponent D processors F productcomponent F usefile Joinpath Load Load Load F function Loadbinfile Loadlualib Loadtrie Loadtualib Loadtrie Lo | F currentproduct     |            |                    | function   |
| F justacomponent D processors Productcomponent F usefile F usefile F unction F usefile F unction F usefile F unction I coad F unction I reset function I reset function I resetment functio | F currentproject     |            |                    | function   |
| D processors F productcomponent F usefile F us |                      |            | _                  | function   |
| Fusefile repath function joinpath function reset function load function resetextrapath function loadinfile function resetemstream function loaders data table resetresolve function loadtexfile function savers data table loadtime function scandata function locateformat function scanfiles function locators data table schemes table luacnfname string Toleaners luacnfspec string Foome macros table Firstip  Foonvertfile Feacedecomment Firstchale Fenodecomment Firstchale Fenodecomment Firstchale Firstcomment Firstsall Firstcomment Firstsall Firstsa | D processors         |            | relations          | data table |
| joinpath   function   reset   function   load   function   resetextrapath   function   loadbinfile   function   resetement   function   loadbinfile   function   resetement   function   loadters   data table   resetresolve   function   loadtexfile   function   savers   data table   loadtime   function   scandata   function   locators   data table   schemes   table   locators   data table   schemes   table   luacnfspace   string   F mo5   luacnfspace   string   F mo5   luacnfstate   string   F strip   F cleanname   F fetchable   F strip   Settly   function   Set | F productcomponent   |            | renew              | function   |
| load function resetextrapath function loadbinfile function resetmemstream function loaders data table resetresolve function loadtualib function resolve function loadtexfile function savers data table loadtime function scandata function locateformat function scandata function locateformat function scanfiles function locators data table schemes table luannfame string Toleaners luannfame string Founce string Founce string Founce string Founce for string for st | F usefile            |            | repath             | function   |
| loadbinfile function resetmemstream function loaders data table resetresolve function loadtualib function resolve function loadtexfile function savers data table loadtime function scandata function locateformat function scanfiles function locators data table schemes table luacnfname string T cleaners luacnfspec string F md5 luacnfstate string F none macros table F strip F convertfile F decodecomment F fetchstring F fetchstring F enablecomment F fetchtable F encodecomment F proprocessed setlynamic function F processmk setlynamic function F processmk setlynamic function setmemstream function maxreadlevel number showpath function simplescanfiles function openbinfile function splitconfigurationpath function openers data table splitmethod function openers data table splitmethod function openers function stackpath function suffixes data table popextrapath function suffixes pushextrapath function toppath function prefixes data table texadablob function prefixes data table texadablob function prefixes function toppath function puncypandedpath  | joinpath             | function   | reset              | function   |
| loaders data table resetresolve function loadlualib function resolve function loadtexfile function savers data table loadtime function scandata function locateformat function scanfiles function locators data table schemes table luacnfname string Toleaners luacnfspec string Foone macros table Foone feet for schement Foone feet for schement Foone feet food for schement for foone feet food foone for foone feet food foone feet food foone feet food food food food food food food foo  | load                 | function   | resetextrapath     | function   |
| loadlualib function resolve function loadtexfile function savers data table loadtime function scandata function locateformat function scanfiles function locators data table schemes table luacnfname string T cleaners luacnfspec string F md5 luacnfstate string F none macros table F strip F convertfile F convertfile F decodecomment F fetchstring F fetchstring F enablecomment F fetchstring F encodecomment F fetchstable F setenv function F processmk setenv function set maxreadlevel number showpath function maxreadlevel number showpath function splitconfigurationpath function openbinfile function splitconfigurationpath function openbinfile function stackpath function ownpath string suffixmap data table poppath function suffixmap data table poppath function suffixmap data table prependlash function toppath function function function suffixmap data table prependlash function toppath function function function function suffixes data table prependlash function toppath function suffixmap data table prependlash function toppath function functi | loadbinfile          | function   | resetmemstream     | function   |
| loadtexfile  | loaders              | data table | resetresolve       | function   |
| loadtime function scandata function locateformat function scanfiles function locators data table schemes table luacnfname string T cleaners luacnfspec string F md5 luacnfstate string F none macros table F strip F convertfile F convertfile F fetchstring F fetchstring F enablecomment F fetchable F strockecomment F processmk Setdynamic function F processmk setinstance function f processmk setinstance function maxreadlevel number showpath function splitconfigurationpath function openbinfile function splitconfigurationpath function openers data table splitmethod function openetsfile function string suffixes data table popextrapath function suffixes data table popextrapath function suffixes data table texdatablob function function prefixes data table texdatablob function prependhash function toppath function prependhash function toppath function toppath function prependhash function toppath function function prependhash function unexpandedpath function function function prependhash function unexpandedpath function | loadlualib           | function   | resolve            | function   |
| locateformat   | loadtexfile          | function   | savers             | data table |
| locators   | loadtime             | function   | scandata           | function   |
| luacnfnamestringT cleanersluacnfspecstringF md5luacnfstatestringF nonemacrostableF stripF convertfileF cleannameF decodecommentF fetchstringF enablecommentF fetchtableF encodecommentF installF preprocessedSetdynamicfunctionF processmkvisetenvfunctionF versionsetmestreamfunctionmaxreadlevelnumbershowpathfunctionmethodhandlerfunctionsimplescanfilesfunctionnewinstancefunctionsplitconfigurationpathfunctionopenbinfilefunctionsplitexpansionsfunctionopenersdata tablesplitmethodfunctionopentexfilefunctionsplitpathfunctionopentexfilefunctionstringsuffixesdata tableopextrapathfunctionsuffixmapdata tablepopextrapathfunctionsuffixmapdata tablepoppathfunctionsuffixmapdata tableprefixesdata tabletexdatablobfunctionprependhashfunctiontoppathfunctionpushextrapathfunctionunexpandedpathfunction  | locateformat         | function   | scanfiles          | function   |
| luacnfspecstringF md5luacnfstatestringF nonemacrostableF stripF convertfileF cleannameF decodecommentF fetchstringF enablecommentF fetchtableF encodecommentF installF preprocessedSetdynamicfunctionF processmkSetenvfunctionF processmkviSetinstancefunctionF versionSetmemstreamfunctionmaxreadlevelnumbershowpathfunctionmethodhandlerfunctionsimplescanfilesfunctionnewinstancefunctionsplitconfigurationpathfunctionopenbinfilefunctionsplitexpansionsfunctionopenersdata tablesplitmethodfunctionopenfilefunctionsplitpathfunctionopentexfilefunctionsplitpathfunctionownpathstringsuffixesdata tablepopextrapathfunctionsuffixmapdata tablepoppathfunctionsuffixmapdata tableprefixesdata tabletexdatablobfunctionprependhashfunctiontoppathfunctionpushextrapathfunctionunexpandedpathfunction  | locators             | data table | schemes            | table      |
| luacnfstatestringF nonemacrostableF stripF convertfileF cleannameF decodecommentF fetchstringF enablecommentF fetchtableF encodecommentF installF preprocessedsetdynamicfunctionF processmksetenvfunctionF processmkvisetinstancefunctionF versionsetmemstreamfunctionmaxreadlevelnumbershowpathfunctionmethodhandlerfunctionsimplescanfilesfunctionnewinstancefunctionsplitconfigurationpathfunctionopenbinfilefunctionsplitexpansionsfunctionopenersdata tablesplitmethodfunctionopenfilefunctionsplitpathfunctionopenfilefunctionstackpathfunctionownpathstringsuffixesdata tablepopextrapathfunctionsuffixmapdata tablepoppathfunctionsuffixofformatfunctionprefixesdata tabletexdatablobfunctionprependhashfunctiontoppathfunctionpushextrapathfunctionunexpandedpathfunction   | luacnfname           | string     | T cleaners         |            |
| macros table F strip  F convertfile F cleanname F decodecomment F fetchstring F enablecomment F fetchtable F encodecomment F install F preprocessed Setdynamic function F processmk Setenv function F processmkvi Setinstance function F version Setmemstream function maxreadlevel number showpath function methodhandler function simplescanfiles function newinstance function splitconfigurationpath function openbinfile function splitexpansions function openers data table splitmethod function openfile function splitpath function openfile function splitpath function opentexfile function stackpath function ownpath string suffixes data table popextrapath function suffixmap data table poppath function suffixmap data table poppath function suffixmap function prefixes data table texdatablob function prefixes function toppath function prependhash function unexpandedpath  | luacnfspec           | string     | F md5              |            |
| F convertfile F decodecomment F decodecomment F enablecomment F enablecomment F encodecomment F preprocessed F processmk F processmk F processmkvi F version F version F tunction F function F function F function F unction F version F tunction F unction F unction F version F version F tunction F tunction F tunction F tunction F version F version F version F version F version F tunction F tunctio | luacnfstate          | string     | F none             |            |
| F decodecomment F enablecomment F enablecomment F encodecomment F preprocessed F preprocessed F processmk F processmk F processmkvi F version F version F tunction F  | macros               | table      | F strip            |            |
| F enablecomment F encodecomment F preprocessed F preprocessed F processmk F processmk F processmkvi F version F version F unction F version F unction F unction F unction F unction F unction F version F unction F unction F version F unction F version F unction F version F unction F version F version F version F version F version F version F unction F version F unction F version F version F unction F unction F version F processmk F inction F unction F version F unction F unction F unction F inction F in | F convertfile        |            | F cleanname        |            |
| F encodecomment F preprocessed Setdynamic F processmk F processmk F processmkvi F version F version F tunction F tunction F tunction F version F tunction  | F decodecomment      |            | F fetchstring      |            |
| F preprocessed F processmk F processmkvi F processmkvi F version F version  maxreadlevel mumber f function showpath methodhandler newinstance function openbinfile openers openers openers opentexfile openetxfile ownpath string openetxrapath poppath poppath poppath poppath prefixes prependhash punction pushextrapath function setemstream function setemstream function simplescanfiles function splitconfigurationpath function splitexpansions function splitexpansions function splitmethod function splitpath function stackpath function suffixes data table poppath function suffixes data table poppath function suffixofformat function prefixes function toppath function pushextrapath function unexpandedpath function   | F enablecomment      |            | F fetchtable       |            |
| F processmkvi F processmkvi F processmkvi F version  maxreadlevel mumber f unction setmemstream function methodhandler newinstance openbinfile openers openers openers openers data table opentexfile openetxfile ownpath string openetxfile poppath poppath poppath poppath poppath prefixes prependhash prependhash punction pushextrapath function setinstance function showpath setinstance function splitexpansions function function splitexpansions function function function splitexpansions function function function pushextrapath function unexpandedpath function   | F encodecomment      |            | F install          |            |
| F processmkvi F version Setmemstream F version F unction F version F version F unction F version F version F unction F version F unction F version F unction F version F unction F unction F version F unction F unction F version F unction | F preprocessed       |            | setdynamic         | function   |
| F version  maxreadlevel number showpath function methodhandler function simplescanfiles function newinstance function splitconfigurationpath function openbinfile function splitexpansions function openers data table splitmethod function openfile function splitpath function opentexfile function stackpath function ownpath string suffixes data table popextrapath function suffixmap data table poppath function suffixofformat function prefixes data table texdatablob function prependhash function unexpandedpath function  | F processmk          |            |                    |            |
| maxreadlevel number showpath function methodhandler function simplescanfiles function newinstance function splitconfigurationpath function openbinfile function splitexpansions function openers data table splitmethod function openfile function splitpath function opentexfile function stackpath function ownpath string suffixes data table popextrapath function suffixmap data table poppath function suffixofformat function prefixes data table texdatablob function prependhash function unexpandedpath function   | F processmkvi        |            | setinstance        |            |
| methodhandler function simplescanfiles function newinstance function splitconfigurationpath function openbinfile function splitexpansions function openers data table splitmethod function openfile function splitpath function opentexfile function stackpath function ownpath string suffixes data table popextrapath function suffixmap data table poppath function suffixofformat function prefixes data table texdatablob function prependhash function unexpandedpath function   |                      |            |                    |            |
| newinstancefunctionsplitconfigurationpathfunctionopenbinfilefunctionsplitexpansionsfunctionopenersdata tablesplitmethodfunctionopenfilefunctionsplitpathfunctionopentexfilefunctionstackpathfunctionownpathstringsuffixesdata tablepopextrapathfunctionsuffixmapdata tablepoppathfunctionsuffixofformatfunctionprefixesdata tabletexdatablobfunctionprependhashfunctiontoppathfunctionpushextrapathfunctionunexpandedpathfunction  |                      |            | •                  |            |
| openbinfilefunctionsplitexpansionsfunctionopenersdata tablesplitmethodfunctionopenfilefunctionsplitpathfunctionopentexfilefunctionstackpathfunctionownpathstringsuffixesdata tablepopextrapathfunctionsuffixofformatfunctionprefixesdata tabletexdatablobfunctionprependhashfunctiontoppathfunctionpushextrapathfunctionunexpandedpathfunction   |                      |            |                    |            |
| openersdata tablesplitmethodfunctionopenfilefunctionsplitpathfunctionopentexfilefunctionstackpathfunctionownpathstringsuffixesdata tablepopextrapathfunctionsuffixmapdata tablepoppathfunctionsuffixofformatfunctionprefixesdata tabletexdatablobfunctionprependhashfunctiontoppathfunctionpushextrapathfunctionunexpandedpathfunction   |                      |            |                    |            |
| openfilefunctionsplitpathfunctionopentexfilefunctionstackpathfunctionownpathstringsuffixesdata tablepopextrapathfunctionsuffixmapdata tablepoppathfunctionsuffixofformatfunctionprefixesdata tabletexdatablobfunctionprependhashfunctiontoppathfunctionpushextrapathfunctionunexpandedpathfunction   | •                    |            |                    |            |
| opentexfilefunctionstackpathfunctionownpathstringsuffixesdata tablepopextrapathfunctionsuffixmapdata tablepoppathfunctionsuffixofformatfunctionprefixesdata tabletexdatablobfunctionprependhashfunctiontoppathfunctionpushextrapathfunctionunexpandedpathfunction  | •                    |            | •                  |            |
| ownpathstringsuffixesdata tablepopextrapathfunctionsuffixmapdata tablepoppathfunctionsuffixofformatfunctionprefixesdata tabletexdatablobfunctionprependhashfunctiontoppathfunctionpushextrapathfunctionunexpandedpathfunction  |                      | function   |                    | function   |
| popextrapathfunctionsuffixmapdata tablepoppathfunctionsuffixofformatfunctionprefixesdata tabletexdatablobfunctionprependhashfunctiontoppathfunctionpushextrapathfunctionunexpandedpathfunction   | •                    |            |                    |            |
| poppathfunctionsuffixofformatfunctionprefixesdata tabletexdatablobfunctionprependhashfunctiontoppathfunctionpushextrapathfunctionunexpandedpathfunction  | •                    | •          |                    |            |
| prefixesdata tabletexdatablobfunctionprependhashfunctiontoppathfunctionpushextrapathfunctionunexpandedpathfunction   |                      |            | -                  |            |
| prependhashfunctiontoppathfunctionpushextrapathfunctionunexpandedpathfunction  |                      |            |                    |            |
| pushextrapath function unexpandedpath function   | -                    |            |                    |            |
| Production of the contract of  | • •                  |            | • •                |            |
| <pre>pushpath function unexpandedpathlist function</pre>   | ·                    |            | • •                |            |
|  | pushpath             | function   | unexpandedpathlist | function   |

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

## sandbox (context)

| binaryhandler  | function | redefine          | function |
|----------------|----------|-------------------|----------|
| disablerunners | function | register          | function |
| enable         | function | registerbinary    | function |
| filehandlerone | function | registerroot      | function |
| filehandlertwo | function | registerrunner    | function |
| finalizer      | function | report            | function |
| initializer    | function | run               | function |
| iohandler      | function | runhandler        | function |
| logcalls       | function | setfilenamelogger | function |
| logfiles       | function | setlogger         | function |
| original       | function | setreporter       | function |
| overload       | function | settrace          | function |
| possiblepath   | function | validfilename     | function |

### scripts (context)

#### autofontfeature table

F disable

F enable

F handler

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

handlers data table table hash iniectors data table installdataset function installmethod function numbertocategory data table numbertodataset data table numbertohandler data table reset function function set data table splitters

## set (context)

contains function
create function
tolist function

tonumber function
totable function

### socket (extra lua)

**BLOCKSIZE** number S connection boolean DEBUG S content-description SETSIZE number S content-disposition bind function S content-encoding function choose S content-id function connect S content-language connect4 function S content-length function connect6 S content-location dns table S content-md5 F getaddrinfo S content-range F gethostname S content-transfer-encoding F getnameinfo S content-type F tohostname S date F toip S diagnostic-code ftp table S dsn-gateway S PASSWORD S etag N PORT S expect N TIMEOUT S expires S USER S final-log-id F command S final-recipient F get S from F open S host F put S if-match gettime function S if-modified-since headers table S if-none-match T canonic S if-range S accept S if-unmodified-since S accept-charset S in-reply-to S accept-encoding S keywords S accept-language S last-attempt-date S accept-ranges S last-modified S action S location S max-forwards S age S allow S message-id S alternate-recipient S mime-version S arrival-date S original-envelope-id S authorization S original-recipient S bcc S pragma S cache-control S proxy-authenticate Scc S proxy-authorization S comments S range

| S received              | protect  | function  |
|-------------------------|----------|-----------|
| S received-from-mta     | select   | function  |
| S references            | sink     | function  |
| S referer               | sinkt    | table     |
| S remote-mta            | F close- | when-done |
| S reply-to              | F defaul | t         |
| S reporting-mta         | F http-c | hunked    |
| S resent-bcc            | F keep-o | pen       |
| S resent-cc             | skip     | function  |
| S resent-date           | sleep    | function  |
| S resent-from           | smtp     | table     |
| S resent-message-id     | S DOMAIN |           |
| S resent-reply-to       | N PORT   |           |
| S resent-sender         | S SERVER |           |
| S resent-to             | N TIMEOU | Т         |
| S retry-after           | S ZONE   |           |
| S return-path           | F messag | e         |
| S sender                | F open   |           |
| S server                | F send   |           |
| S smtp-remote-recipient | source   | function  |
| S status                | sourcet  | table     |
| S subject               | F by-len | gth       |
| S te                    | F defaul | t         |
| S to                    | F http-c | hunked    |
| S trailer               | F until- |           |
| S transfer-encoding     | tcp      | function  |
| S upgrade               | tcp6     | function  |
| S user-agent            | tp       | table     |
| S vary                  | N TIMEOU | Т         |
| S via                   | F connec |           |
| S warning               | try      | function  |
| S will-retry-until      | udp      | function  |
| S www-authenticate      | udp6     | function  |
| S x-mailer              | url      | table     |
| http table              | F absolu | te        |
| N PORT                  | F build  |           |
| N TIMEOUT               | F build_ | path      |
| S USERAGENT             | F escape |           |
| F open                  | F parse  |           |
| Frequest                | F parse_ |           |
| newtry function         | F unesca | ре        |

### sorters (context)

basicsorter function
comparers table
 F basic
constants table
 S defaultdigits
 S defaultlanguage
 S defaultmethod
 N digitsmaximum

N ignoredoffset
N replacementoffset
T validmethods

N digitsoffset

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 setlanguage sort function splitters table

F utf

strip function
tracers data table
update function

## statistics (context)

| checkfmtstatus | function | resettiming   | function |
|----------------|----------|---------------|----------|
| elapsed        | function | runtime       | function |
| elapsedindeed  | function | savefmtstatus | function |
| elapsedseconds | function | show          | function |
| elapsedtime    | function | starttiming   | function |
| enable         | boolean  | stoptiming    | function |
| formatruntime  | function | threshold     | number   |
| hastiming      | function | timed         | function |
| memused        | function | tracefunction | function |
| register       | function |               |          |

## status (basic tex)

list function
resetmessages function

### storage (context)

| allocate   | function |
|------------|----------|
| data       | table    |
| mark       | function |
| marked     | function |
| max        | number   |
| min        | number   |
| nofmodules | number   |

noftables number
register function
shared data table
storedfunctions data table
strip boolean
tofmodules number
toftables number

# streams (context)

| collect    | function | push        | function |
|------------|----------|-------------|----------|
| disable    | function | start       | function |
| enable     | function | stop        | function |
| flush      | function | synchronize | function |
| initialize | function |             |          |

# string (basic lua)

| autodouble       | function | optionalquoted  | function |
|------------------|----------|-----------------|----------|
| autosingle       | function | quote           | function |
| booleanstring    | function | quoted          | function |
| byte             | function | rep             | function |
| <b>bytepairs</b> | function | replacenewlines | function |
| bytes            | function | reverse         | function |
| char             | function | split           | function |
| characterpairs   | function | splitlines      | function |
| characters       | function | splitup         | function |
| checkedsplit     | function | strip           | function |
| collapsespaces   | function | sub             | function |
| count            | function | tformat         | function |
| dump             | function | toHEX           | function |
| escapedpattern   | function | toboolean       | function |
| explode          | function | tobytes         | function |
| find             | function | tocontext       | function |
| format           | function | todec           | function |
| formatter        | function | todimen         | function |
| formatters       | function | tohex           | function |
| fullstrip        | function | tonodes         | function |
| gmatch           | function | topattern       | function |
| gsub             | function | totable         | function |
| is_boolean       | function | toutf           | function |
| is_empty         | function | tracedchar      | function |
| itself           | function | tracedchars     | table    |
| len              | function | unquote         | function |
| limit            | function | unquoted        | function |
| longtostring     | function | upper           | function |
| lower            | function | utfcharacters   | function |
| match            | function | utfvalues       | function |
| nspaces          | table    | valid           | function |
|                  |          |                 |          |

## structures (context)

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

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

| F resetpostponed    |       | D flaginternals                  |
|---------------------|-------|----------------------------------|
| F restore           |       | F from                           |
| F save              |       | D functions                      |
| F setstate          |       | F get                            |
| D states            |       | F getcurrentmetadata             |
| F store             |       | F getcurrentprefixspec           |
| pages               | table | F getinnermethod                 |
| F analyze           |       | F getinternalcachedlistreference |
| D collected         |       | F getinternallistreference       |
| F in_body           |       | F getinternalreference           |
| F is_odd            |       | D handlers                       |
| N nofpages          |       | F identify                       |
| F number            |       | F import                         |
| F on_right          |       | F inject                         |
| F save              |       | F injectcurrentset               |
| D tobesaved         |       | S innermethod                    |
| references          | table | D internals                      |
| F analyze           |       | F load                           |
| F checkedfile       |       | F loadpresets                    |
| F checkedfileorurl  |       | F mark                           |
| F checkedprogram    |       | D pages                          |
| F checkedrealpage   |       | U prefixsplitter                 |
| F checkedurl        |       | D productdata                    |
| D collected         |       | T programs                       |
| U componentsplitter |       | T data                           |
| F currentmetadata   |       | F define                         |
| F currentorder      |       | F get                            |
| D currentset        |       | F realpageofpage                 |
| F define            |       | U referencesplitter              |
| D defined           |       | D referred                       |
| D derived           |       | F referredpage                   |
| F enableinteraction |       | F registerfinalizer              |
| F enhance           |       | F registerinitializer            |
| D executers         |       | F registerpage                   |
| F expandcurrent     |       | F reportproblems                 |
| F export            |       | F reset                          |
| T files             |       | D runners                        |
| T data              |       | F set                            |
| F define            |       | F setandgetattribute             |
| F found             |       | F setcomponent                   |
| F get               |       | F setinnermethod                 |
| F filter            |       | F setinternalreference           |
| F filterdefault     |       | F setnextinternal                |
| D filters           |       | F setnextorder                   |

| F setreferencerealpage |              | F    | process                  |       |
|------------------------|--------------|------|--------------------------|-------|
| D specials             |              |      | setmethod                |       |
| F splitcomponent       |              |      | sort                     |       |
| F splitprefix          |              | F    | store                    |       |
| F splitreference       |              | D    | tobesaved                |       |
| F synchronizepage      |              | F    | unique                   |       |
| T testrunners          |              | F    | userdata                 |       |
| Finner                 |              | sect | ions                     | table |
| F special              |              | F    | autodepth                |       |
| F special operation    |              | F    | cct                      |       |
| F special operation wi | th arguments | D    | collected                |       |
| T testspecials         |              | F    | current                  |       |
| F deltapage            |              | F    | currentblock             |       |
| Fi                     |              | F    | currentid                |       |
| F internal             |              | F    | currentlevel             |       |
| F page                 |              | F    | currentsectionindex      |       |
| F realpage             |              | F    | depthnumber              |       |
| F section              |              | F    | finddata                 |       |
| F userpage             |              | F    | findnumber               |       |
| D tobereferred         |              | F    | fullnumber               |       |
| D tobesaved            |              | F    | getcurrentlevel          |       |
| D tracedpages          |              | F    | getlevel                 |       |
| T urls                 |              |      | getnumber                |       |
| T data                 |              | F    | internalreference        |       |
| F define               |              |      | levelmap                 |       |
| F found                |              |      | levels                   |       |
| F get                  |              |      | load                     |       |
| D usedinternals        |              |      | matchingtilldepth        |       |
| D usedviews            |              |      | numberatdepth            |       |
| F valid                | +ah] a       |      | numbers                  |       |
| registers              | table        |      | popblock                 |       |
| F analyze              |              |      | prefixedconverted        |       |
| D collected            |              |      | pushblock                |       |
| F compare<br>F define  |              |      | register<br>registered   |       |
| F enhance              |              |      | reportstructure          |       |
| F extend               |              | _    | •                        |       |
| F filter               |              |      | save<br>sectionblockdata |       |
| F filtercollected      |              | ·    | T bodypart               |       |
| F finalize             |              |      | S bookmark               |       |
| F findinternal         |              | F    | set                      |       |
| F flush                |              |      | setblock                 |       |
| F get                  |              |      | setchecker               |       |
| F prepare              |              |      | setentry                 |       |
| • •                    |              | •    | •                        |       |

F setinitialblock F elementtag F setlevel F finishexport F setnumber F getid F structuredata F handler F title D labels D tobesaved F last F typesetnumber F lastinchain F userdata F locatedtag B verbose T patterns sets table U splitter F define D properties F aet F registermetadata F getall F restart D setlist F setaspect specials table F setattributehash D collected F setcombination F retrieve F setfigure F store F sethighlight D tobesaved F setitem synonyms table F setitemgroup F analyzed F setlist D collected F setnotation F compare F setnotationsymbol F define F setproperty F filter F setregister F finalize F setsorting F flush F setsynonym F isshown F settablecell F isused F settabulatecell F meaning F settagdelimitedsymbol F prepare F settagsubsentencesymbol F process F setupexport F register F setuserproperties F registershown D specifications F registerused F start F resetshown F stop F resetused F strip F sort D taglist F synonym T usewithcare D tobesaved T images tags table

## table (basic lua)

| allkeys         | function | prepend              | function |
|-----------------|----------|----------------------|----------|
| append          | function | print                | function |
| are_equal       | function | remove               | function |
| autokey         | function | reverse              | function |
| compact         | function | reversed             | function |
| concat          | function | save                 | function |
| contains        | function | sequenced            | function |
| сору            | function | serialize            | function |
| count           | function | setmetatablecall     | function |
| derive          | function | setmetatableindex    | function |
| deserialize     | function | setmetatablekey      | function |
| drop            | function | setmetatablenewindex | function |
| fastcopy        | function | sort                 | function |
| fastserialize   | function | sorted               | function |
| filtered        | function | sortedhash           | function |
| flattened       | function | sortedhashkeys       | function |
| foreach         | function | sortedhashonly       | function |
| foreachi        | function | sortedindexonly      | function |
| fromhash        | function | sortedkeys           | function |
| getmetatablekey | function | sortedpairs          | function |
| getn            | function | sparse               | function |
| has_one_entry   | function | strip                | function |
| identical       | function | sub                  | function |
| imerge          | function | swapped              | function |
| imerged         | function | tocontext            | function |
| insert          | function | tocsv                | function |
| is_empty        | function | tofile               | function |
| keys            | function | tohandle             | function |
| load            | function | tohash               | function |
| loweredkeys     | function | toxml                | function |
| maxn            | function | twowaymapper         | function |
| merge           | function | unique               | function |
| merged          | function | unnest               | function |
| mirrored        | function | unpack               | function |
| pack            | function | values               | function |
|                 |          |                      |          |

## tex (basic tex)

|                          |            |                     | 6                   |  |
|--------------------------|------------|---------------------|---------------------|--|
| attribute                | table      | gettoks             | function            |  |
| badness                  | function   | getuccode           | function            |  |
| box                      | table      | glue                | table               |  |
| catcode                  | table      | hashtokens          | function            |  |
| conditionals             | data table | ifs                 | data table          |  |
| constants                | data table | inicatcodes         | number              |  |
| count                    | table      | init_rand           | function            |  |
| cprint                   | function   | isattribute         | function            |  |
| ctdcatcodes              | number     | isbox               | function            |  |
| ctxcatcodes              | number     | iscount             | overloaded function |  |
| definefont               | function   | isdefined           | function            |  |
| delcode                  | table      | isdimen             | overloaded function |  |
| dimen                    | table      | ismuskip            | overloaded function |  |
| directives               | data table | isskip              | overloaded function |  |
| enableprimitives         | function   | istoken             | function            |  |
| error                    | function   | istoks              | function            |  |
| extraprimitives          | function   | lccode              | table               |  |
| finish                   | function   | linebreak           | function            |  |
| fontidentifier           | function   | lists               | table               |  |
| fontname                 | function   | lua_math_random     | function            |  |
| fprint                   | function   | lua_math_randomseed | function            |  |
| get                      | function   | luacatcodes         | number              |  |
| getattribute             | function   | mathcode            | table               |  |
| getbox                   | function   | modes               | data table          |  |
| getboxresourcedimensions | function   | muglue              | table               |  |
| getcatcode               | function   | muskip              | table               |  |
| getcount                 | function   | nest                | table               |  |
| getdelcode               | function   | nilcatcodes         | number              |  |
| getdelcodes              | function   | normal_rand         | function            |  |
| getdimen                 | function   | notcatcodes         | number              |  |
| getglue                  | function   | number              | function            |  |
| getlccode                | function   | primitives          | function            |  |
| getlist                  | function   | print               | function            |  |
| getmath                  | function   | prtcatcodes         | number              |  |
| getmathcode              | function   | resetparagraph      | function            |  |
| getmathcodes             | function   | romannumeral        | function            |  |
| getmuglue                | function   | round               | function            |  |
| getmuskip                | function   | run                 | function            |  |
| getnest                  | function   | saveboxresource     | function            |  |
| getsfcode                | function   | scale               | function            |  |
| getskip                  | function   | scantoks            | function            |  |

| set          | function | skip             | table      |
|--------------|----------|------------------|------------|
| setattribute | function | sp               | function   |
| setbox       | function | splitbox         | function   |
| setcatcode   | function | sprint           | function   |
| setcount     | function | systemmodes      | data table |
| setdelcode   | function | takebox          | function   |
| setdimen     | function | texcatcodes      | number     |
| setglue      | function | toks             | table      |
| setlccode    | function | tpacatcodes      | number     |
| setlist      | function | tpbcatcodes      | number     |
| setmath      | function | tprint           | function   |
| setmathcode  | function | trackers         | data table |
| setmuglue    | function | triggerbuildpage | function   |
| setmuskip    | function | txtcatcodes      | number     |
| setnest      | function | type             | function   |
| setsfcode    | function | uccode           | table      |
| setskip      | function | uniform_rand     | function   |
| settoks      | function | uniformdeviate   | function   |
| setuccode    | function | uprint           | function   |
| sfcode       | table    | useboxresource   | function   |
| shipout      | function | vrbcatcodes      | number     |
| show context | function | write            | function   |
| _            |          |                  |            |

#### texconfig (basic tex)

kpse\_init boolean
max in open number

max\_print\_line number
max\_strings number
nest\_size number
param\_size number
save\_size number
shell\_escape string

## texio (basic tex)

setescape function
write function

write\_nl function

## tokens (context)

| astable    | function | defined     | function |
|------------|----------|-------------|----------|
| bgroup     | userdata | egroup      | userdata |
| bits       | table    | getters     | table    |
| N active   |          | F box       |          |
| N alignmen | t        | F count     |          |
| N begingro | up       | F dimen     |          |
| N characte | r        | F glue      |          |
| N close    |          | F skip      |          |
| N comment  |          | F token     |          |
| N endgroup |          | hbox        | userdata |
| N endoflin | e        | istoken     | function |
| N escape   |          | letter      | function |
| N ignore   |          | letters     | function |
| N invalid  |          | other       | function |
| N letter   |          | pickup      | function |
| N mathshif | t        | printlist   | function |
| N open     |          | scanners    | table    |
| N other    |          | F boolean   |          |
| N paramete | r        | F code      |          |
| N space    |          | F condition | nal      |
| N subscrip | t        | F count     |          |
| N superscr | ipt      | F csname    |          |
| N whitespa | ce       | F dimen     |          |
| collectors | table    | F dimensio  | n        |
| T data     |          | F glue      |          |
| F defaultw | ords     | F integer   |          |
| F dowithwo | rds      | F keyword   |          |
| F flush    |          | F list      |          |
| F install  |          | F lxmlid    |          |
| F register |          | F number    |          |
| T register | ed       | F scanclos  | е        |
| F show     |          | F scanoper  |          |
| F test     |          | F skip      |          |
| compile    | function | F string    |          |
| constant   | function | F token     |          |
| converters | table    | F tokens    |          |
| S toboolea | n        | F toks      |          |
| S todimen  |          | F word      |          |
| S toglue   |          | scantable   | function |
| S tonumber |          | setters     | table    |
| S tostring |          | F box       |          |

F conditional F count F dimen F count F glue F csname F dimen F macro F skip F dimension shortcuts table F glue T bits F integer N active F kevword F list N alignment N begingroup F lxmlid F number N character F scanclose N close N comment F scanopen N endgroup F skip N endofline F string N escape F token N ignore F tokens N invalid F toks N letter F word N mathshift F scannumber N open F scanopen N other F scanstring N parameter F scanword N space F toboolean N subscript F todimen N superscript T tokens N whitespace F astable N close U bgroup F inspect T collectors F defaultwords N open F dowithwords F report F scanboolean F flush F scanclose F install F scancode F register F scanconditional F show F scancsname F test F scandimen F compile F scandimension F constant F scaninteger T converters F scankeyword S toboolean F scanlist S todimen T scanners S toglue F boolean S tonumber F code S tostring

F defined N open U egroup F report T getters F scanboolean F box F scanclose F count F scancode F dimen F scanconditional F glue F scancsname F skip F scandimen F token F scandimension U hbox F scaninteger F istoken F scankeyword F letter F scanlist F letters F scannumber F other F scanopen F pickup F scanstring F printlist F scanword F scantable F toboolean T setters F todimen F box F tonumber F count F tostring F dimen U vbox F glue U vtop F macro F tonumber F skip F tostring T shortcuts vbox userdata N close vtop userdata

F inspect

#### tracers (context)

count function
cs function
dimen function
knownlist function
lists table

T context

T internals
T scratch

name function

primitive function
printerror function
printwarning function
showlines function
strings table

S undefined

toks function
type function

## trackers (context)

| data           | data table | register | function |
|----------------|------------|----------|----------|
| default        | function   | report   | function |
| disable        | function   | reset    | function |
| dumphashtofile | function   | savehash | function |
| enable         | function   | show     | function |
| list           | function   | value    | function |
| name           | string     |          |          |

# typesetters (context)

| -14              | 4-11- |                  |       |
|------------------|-------|------------------|-------|
| alignments       | table | T handlers       |       |
| F handler        |       | F installhandler |       |
| F set            | +-h1- | F processmath    |       |
| breakpoints      | table | F set            |       |
| F define         |       | F setcolor       |       |
| F handler        |       | F setmath        |       |
| D mapping        |       | F tomode         | 4-61- |
| T methods        |       | firstlines       | table |
| T numbers        |       | T actions        |       |
| F set            |       | F default        |       |
| F setreplacement |       | F line           |       |
| cases            | table | F word           |       |
| T actions        |       | F handler        |       |
| F handler        |       | F set            |       |
| F register       |       | initials         | table |
| F set            |       | T actions        |       |
| characteralign   | table | F default        |       |
| F handler        |       | F addanchortolin | e     |
| F resetcharacter |       | F addtoline      |       |
| F setcharacteral |       | F calculatedelta |       |
| characters       | table | F checkline      |       |
| F handler        |       | F handler        |       |
| T methods        |       | F moveinline     |       |
| F replacenbsp    |       | F normalize      |       |
| F replacenbspace | s     | F set            |       |
| checkers         | table | injectors        | table |
| F handler        |       | F check          |       |
| F reset          |       | T list           |       |
| F set            |       | F mark           |       |
| cleaners         | table | F reset          |       |
| F handler        |       | F set            |       |
| F set            |       | F show           |       |
| digits           | table | italics          | table |
| T actions        |       | F enablemath     |       |
| F handler        |       | F enabletext     |       |
| F set            |       | F forcevariant   |       |
| directions       | table | F handler        |       |
| F getfences      |       | F reset          |       |
| F getglobal      |       | F set            |       |
| F getmethod      |       | kerns            | table |
| F handler        |       | D factors        |       |

| F handler       |          | F register                       |             |  |
|-----------------|----------|----------------------------------|-------------|--|
| F keepligature  |          | F reset                          |             |  |
| B keeptogether  |          | F split                          |             |  |
| D mapping       |          | F startapply                     |             |  |
| F set           |          | F stopapply                      |             |  |
| manipulators    | table    | F stripped                       |             |  |
| F apply         |          | F tostring                       |             |  |
| F applyspecific | ation    | showsuspects                     | function    |  |
| T methods       |          | spacings                         | table       |  |
| F Word          |          | F define                         |             |  |
| F Words         |          | F handler                        |             |  |
| F abbreviated   | journal  | D mapping                        |             |  |
| F expandedjou   | rnal     | T numbers                        |             |  |
| F lowercase     |          | T frenchpunc                     | tuation     |  |
| F stripperiod   |          | T characte                       | rs          |  |
| F uppercase     |          | S name                           |             |  |
| T patterns      |          | N number                         |             |  |
| U list          |          | F reset                          |             |  |
| U pair          |          | F set                            |             |  |
| F splitspecific | ation    | F setup                          |             |  |
| margins         | table    | wrappers                         | table       |  |
| F finalhandler  |          | F handler                        |             |  |
| F globalhandler | -        | xtables                          | table       |  |
| F localhandler  |          | F cleanup                        |             |  |
| F save          |          | F construct                      |             |  |
| marksuspects    | function | F create                         |             |  |
| paragraphs      | table    | F finish_row                     |             |  |
| F addanchortoli | ne       | F flush                          |             |  |
| F addtoline     |          | F initialize_c                   |             |  |
| F calculatedelt | a        | F initialize_r                   |             |  |
| F checkline     |          | F initialize_r                   | eflow_width |  |
| F handler       |          | F next_row                       |             |  |
| F moveinline    |          | F reflow_heigh                   |             |  |
| F normalize     |          | F reflow_width                   |             |  |
| F set           |          | F set_construc                   | :t          |  |
| processors      |          |                                  |             |  |
| F apply         | table    | F set_reflow_h<br>F set_reflow_w |             |  |

## unicode (extra lua)

| ascii |                |      | len        |
|-------|----------------|------|------------|
|       | byte           |      | lower      |
|       | char           |      | match      |
|       | dump           |      | rep        |
|       | find           |      | reverse    |
|       | format         |      | sub        |
|       | gfind          |      | upper      |
|       | gmatch         | utf8 |            |
|       | gsub           |      | byte       |
|       | len            |      | char       |
|       | lower          |      | characters |
|       | natch          |      | chrlen     |
|       | rep            |      | count      |
|       | reverse        |      | dump       |
|       | sub            |      | filetype   |
|       | upper          |      | find       |
| graph |                |      | format     |
|       | byte           |      | gfind      |
|       | char           |      | gmatch     |
|       | dump           |      | gsub       |
|       | find           | F    | is_valid   |
|       | format         |      | len        |
| F     | gfind          | F    | length     |
| F     | gmatch         | F    | lower      |
|       | gsub           |      | magic      |
| F     | len            | F    | match      |
|       | lower          |      | remapper   |
| F     | match          | F    | rep        |
| F     | rep            | F    | replacer   |
| F     | reverse        | F    | reverse    |
| F     | sub            | F    | split      |
|       | upper          |      | splitlines |
| latir | <b>1</b> table | F    | sub        |
| F     | byte           | F    | subtituter |
| F     | char           | F    | tocodes    |
|       | dump           |      | toeight    |
|       | find           |      | toentities |
|       | format         |      | tostring   |
| F     | gfind          | F    | totable    |
| F     | gmatch         | F    | upper      |
| F     | gsub           | F    | ustring    |

| F utf16_to_utf8_be   |
|----------------------|
| F utf16_to_utf8_be_t |
| F utf16_to_utf8_le   |
| F utf16_to_utf8_le_t |
| F utf16_to_utf8_t    |
| F utf32_to_utf8_be   |
| F utf32_to_utf8_be_t |
| F utf32_to_utf8_le   |
| F utf32_to_utf8_le_t |

| F | utf32_to_utf8_t  |
|---|------------------|
| F | utf8_to_utf16    |
| F | utf8_to_utf16_b  |
| F | utf8_to_utf16_le |
| F | utf8_to_utf8_t   |
| F | values           |
| F | xstring          |

## url (context)

| addscheme | function |
|-----------|----------|
| barepath  | function |
| construct | function |
| escape    | function |
| filename  | function |
| hashed    | function |

| hasscheme   | function |
|-------------|----------|
| query       | function |
| split       | function |
| toquery     | function |
| unescapeget | function |

# utilities (context)

| dohuggor              | table | D alunyaat ninaada      |
|-----------------------|-------|-------------------------|
| debugger              | table | B alwaysstripcode       |
| F disable<br>F enable |       | F compile               |
| F savestats           |       | F loadedluacode         |
|                       |       | F loadstripped          |
| F showstats           |       | N nofstrippedbytes      |
| F showtraceback files | table | N nofstrippedchunks     |
|                       | table | B stripcode             |
| F close               |       | T strippedchunks        |
| F getposition         |       | F strippedloadstring    |
| F look                |       | T suffixes              |
| F open                |       | S lua                   |
| F read2dot14          |       | S luc                   |
| F readbyte            |       | S lui                   |
| F readbytes           |       | S luj                   |
| F readcardinal        |       | S luv                   |
| F readcardinal1       |       | S tma                   |
| F readcardinal2       |       | S tmc                   |
| F readcardinal3       |       | S tua                   |
| F readcardinal4       |       | S tuc                   |
| F readchar            |       | packers table           |
| F readfixed4          |       | F hashed                |
| F readinteger         |       | F new                   |
| F readinteger1        |       | F pack                  |
| F readinteger2        |       | F simplehashed          |
| F readinteger4        |       | F strip                 |
| F readstring          |       | F unpack                |
| F readtag             |       | N version               |
| F setposition         |       | parsers table           |
| F size                |       | F add_settings_to_array |
| F skip                |       | F arguments_to_table    |
| F skiplong            |       | F array_to_string       |
| F skipshort           |       | F csvsplitter           |
| formatters            | table | F getparameters         |
| F formatcolumns       |       | F groupedsplitat        |
| F list                |       | F hash_to_string        |
| F stripzeros          |       | T hashes                |
| garbagecollector      | table | T settings_to_set       |
| F check               |       | T max,fit,broad,auto    |
| N criterium           |       | B auto                  |
| B enabled             |       | B broad                 |
| lua                   | table | B fit                   |

|    | B max              |                              | F    | disablegroup   |       |
|----|--------------------|------------------------------|------|----------------|-------|
|    | T text,hidden,p    | aper,page,leftpage,rightpage | F    | enableaction   |       |
|    | B hidden           |                              | F    | enablegroup    |       |
|    | B leftpage         |                              | D    | functions      |       |
|    | B page             |                              | F    | localize       |       |
|    | B paper            |                              | F    | new            |       |
|    | B rightpage        |                              | F    | nodeprocessor  |       |
|    | B text             |                              | F    | prependaction  |       |
|    | F iterator         |                              | F    | prependgroup   |       |
|    | F keq_to_hash      |                              | F    | removeaction   |       |
|    | F listitem         |                              | F    | replaceaction  |       |
|    | F make_settings_to | _hash_pattern                | F    | setkind        |       |
|    | F mergehashes      |                              | F    | tostring       |       |
|    | F options_to_array |                              | sett | ers            | table |
|    | F options_to_hash  |                              | F    | disable        |       |
|    | T patterns         |                              | F    | enable         |       |
|    | U settings_to_arm  | ray                          | F    | initialize     |       |
|    | U settings_to_has  | sh_a                         | F    | list           |       |
|    | U settings_to_has  | sh_b                         | F    | new            |       |
|    | U settings_to_has  | sh_c                         | F    | register       |       |
|    | U unittotex        |                              | F    | report         |       |
|    | F process_stripped | _settings                    | F    | reset          |       |
|    | F rfc4180splitter  |                              | F    | show           |       |
|    | F runtime          |                              | stac | ker            | table |
|    | F settings_to_arra | у                            | F    | new            |       |
|    | F settings_to_arra | y_obey_fences                | stor | age            | table |
|    | F settings_to_arra | y_with_repeat                | F    | allocate       |       |
|    | F settings_to_hash |                              | F    | checked        |       |
|    | F settings_to_hash | _strict                      | F    | mark           |       |
|    | F settings_to_hash | _tolerant                    | F    | marked         |       |
|    | F settings_to_set  |                              | F    | setinitializer |       |
|    | F simple_hash_to_s | tring                        | F    | sparse         |       |
|    | F splitmethod      |                              | stre | eams           | table |
|    | F splitthousands   |                              | F    | close          |       |
|    | F stepper          |                              | F    | getposition    |       |
|    | F stripped_setting | s_to_array                   | F    | look           |       |
|    | F unittotex        |                              | F    | open           |       |
|    | F unittoxml        |                              | F    | read2dot14     |       |
| re | eport              | function                     | F    | readbyte       |       |
| se | equencers          | table                        | F    | readbytes      |       |
|    | F appendaction     |                              | F    | readcardinal   |       |
|    | F appendgroup      |                              | F    | readcardinal1  |       |
|    | F compile          |                              | F    | readcardinal2  |       |
|    | E 11 13 11         |                              | _    | 1 1: 10        |       |

F readcardinal3

F disableaction

F readcardinal4 U prune and collapse F readchar U prune and no empty F readfixed4 U retain U retain and collapse F readinteger F readinteger1 U retain and no empty F readinteger2 F striplines F readinteger4 F striplong F readstring F tabtospace F setposition T tracers F size tables table F accesstable F skip F definedtable F skipbytes F skiplong F definetable F skipshort F encapsulate strings table F insertaftervalue F collapsecrlf F insertbeforevalue T formatters F migratetable F add F removevalue F new F replacevalue templates table F newrepeater F nice F load T striplinepatterns F replace

U collapse

U prune

F replacer

F resolve

#### vf (context)

| char   | function |
|--------|----------|
| down   | function |
| fontid | function |
| image  | function |
| node   | function |
| nop    | function |

pop function
push function
right function
rule function
special function

## visualizers (context)

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

## xml (context)

| addontitiondontyno      | function | D1:1                              |                    |
|-------------------------|----------|-----------------------------------|--------------------|
| addentitiesdoctype      | function | D parsedxml                       |                    |
| addspecialcode<br>after | function | D string<br>D tex                 |                    |
| all                     | function | D tex                             |                    |
|                         | function |                                   |                    |
| applylpath<br>assign    | function | D texspace                        |                    |
| assign<br>attribute     | function | D verbose                         | string             |
| badinclusions           | function | defaultprotocol<br>delete         | string<br>function |
| before                  | function |                                   | function           |
|                         | function | <del>delete_element</del><br>each | function           |
| body                    |          |                                   |                    |
| builtinentities         | table    | each_element                      | function           |
| B amp                   |          | elements                          | function           |
| B apos                  |          | elementtocdata                    | function           |
| B gt                    |          | empty                             | function           |
| B lt                    |          | entities                          | data table         |
| B quot                  |          | erase                             | function           |
| cdata                   | function | errorhandler                      | function           |
| cdatatotext             | function | escaped                           | function           |
| checkbom<br>            | function | expressions                       | table              |
| checkerror              | function | F boolean                         |                    |
| checknamespace<br>      | function | F child                           |                    |
| checkns                 | function | F contains                        |                    |
| cleansed                | function | F count                           |                    |
| collect                 | function | F error                           |                    |
| collect_elements        | function | F find                            |                    |
| collect_tags            | function | F idstring                        |                    |
| collect_texts           | function | F lower                           |                    |
| collected               | function | F name                            |                    |
| collecttexts            | function | F number                          |                    |
| content                 | function | F oneof                           |                    |
| convert                 | function | F print                           |                    |
| сору                    | function | F quit                            |                    |
| count                   | function | F tag                             |                    |
| cprint                  | function | F text                            |                    |
| CSS                     | table    | F undefined                       |                    |
| F colorspecification    |          | F upper                           |                    |
| F dimension             |          | fillin                            | function           |
| F fontspecification     |          | filter                            | function           |
| F padding               |          | finalizers                        | table              |
| defaulthandlers         | table    | F paragraphs                      |                    |
| D file                  |          | T tex                             |                    |
|                         |          |                                   |                    |

| F   | all            | F match                          |                 |
|-----|----------------|----------------------------------|-----------------|
|     | attribute      | F name                           |                 |
|     | chainattribute | F position                       |                 |
|     | chainpath      | F reverse                        |                 |
|     | command        | F table                          |                 |
| -   | concat         | F tag                            |                 |
|     | concatrange    | F tags                           |                 |
|     | context        | F text                           |                 |
|     | count          | F texts                          |                 |
|     | ctxtext        | F upperall                       |                 |
|     | default        | first                            | function        |
| F   | first          | found                            | function        |
| F   | function       | functions                        | table           |
| F   | index          | getbuffer                        | function        |
| F   | last           | gethandlers                      | function        |
| F   | lettered       | gethandlersfunction              | function        |
|     | lower          | helpers                          | table           |
|     | lowerall       | F recursetext                    |                 |
|     | match          | include                          | function        |
| F   | name           | inclusion                        | function        |
| F   | position       | inclusions                       | function        |
|     | reverse        | index                            | function        |
| F   | stripped       | inheritedconvert                 | function        |
| F   | tag            | inject                           | function        |
| F   | tags           | inject_element                   | function        |
| F   | text           | <pre>inject_element_after</pre>  | function        |
| F   | upper          | <pre>inject_element_before</pre> | <b>function</b> |
| F   | upperall       | injectafter                      | function        |
| T x | ml             | injectbefore                     | function        |
| F   | all            | insert                           | function        |
| F   | att            | insert_element                   | function        |
| F   | attribute      | <pre>insert_element_after</pre>  | <b>function</b> |
| F   | attributes     | <pre>insert_element_before</pre> | function        |
| F   | cdata          | insertafter                      | function        |
| F   | chainattribute | insertbefore                     | function        |
| F   | count          | insertcdata                      | function        |
| F   | default        | insertcomment                    | function        |
| F   | elements       | inspect                          | function        |
| F   | empty          | is_valid                         | function        |
| F   | first          | kind                             | function        |
| F   | function       | last                             | function        |
| F   | index          | lastmatch                        | function        |
| F   | last           | load                             | function        |
| F   | lowerall       | lpath                            | function        |
|     |                |                                  |                 |

| lpathcached                                    | function | selection                                   | function |
|--|----------|---|----------|
| lpathcalls                                     | function | separate                                    | function |
| lshow  | function | serialize                                   | function |
| makestandalone                                 | function | setcdata                                    | function |
| match  | function | setcomment                                  | function |
| name   | function | sethandlersfunction                         | function |
| newhandlers                                    | function | setinjectors                                | function |
| nodesettostring                                | function | setproperty                                 | function |
| originalload                                   | function | settings                                    | function |
| package  | function | specialcodes                                | table    |
| parent   | function | S "   | table    |
| parsedentitylpeg                               | userdata | s<br>s #                                    |          |
| pihandlers                                     | table    |   |          |
| •  | table    | S \$  |          |
| F injector placeholders                        | table    | S %<br>S &                                  |          |
| •  | table    | 5 α<br>5 '                                  |          |
| F unknown_any_entity                           |          | S <   |          |
| F unknown_dec_entity                           |          |   |          |
| F unknown_hex_entity position                  | function | S >   |          |
| privatecodes                                   | table    | s (   |          |
| privatetoken                                   | function | •   |          |
| •  | function | S   |          |
| process  | function | S }   |          |
| <pre>process_attributes process_elements</pre> | function | s ~<br><b>specialhandler</b>                | table    |
| processattributes                              | function | •   | function |
| profiled                                       | table    | sprint<br>string                            | function |
| •  | function |   | function |
| raw  | function | strip                                       | function |
| registerentity<br>registerns                   | function | <del>strip_whitespace</del><br>stripelement | function |
| reindex  | function | stripleadingspaces                          | function |
|  | function | table                                       | function |
| remap_name                                     | function | text  | function |
| remap_namespace                                | function | textonly                                    | function |
| remap_tag                                      | function | texttocdata                                 | function |
| remapname                                      | function | tocdata                                     | function |
| remaphamespace                                 | function | toelement                                   | function |
| remaptag                                       | function | tostring                                    | function |
| renamespace<br>reparsedentitylpeg              | userdata | totable                                     | function |
| replace  | function | toxable                                     | function |
| -  | function |   | function |
| replace_element                                | function | tprint                                      | function |
| resetinjectors<br>resolvens                    | function | traverse                                    | function |
|  | function | unescaped<br>unescapedentitylpeg            | userdata |
| root   |          |   |          |
| save   | function | unprivatized                                | function |

| unspecialized | function | wrap  | function |
|---------------|----------|-------|----------|
| withelement   | function | xmlns | table    |
| withelements  | function |       |          |

#### zip (extra lua)

archivestableopenarchivefunctionclosefunctionopenfilefunctionclosearchivefunctionregisteredfilestableopenoverloaded functiontypefunction

#### zlib (extra lua)

adler32 function
compress function
compressobj function
crc32 function

decompress function
decompressobj function
version function