1 attributes backends bibtex blobs boolean buffers builders caches callbacks catcodes characters chemistry commands containers context converters corputine ctxrunner debug dir directives document documentdata environment epdf experiments figures file floats tom fontloader fonts functions global graphics gzip img interactions interfaces io job languages layouts libraries lmx logs lpdf lpeg ltn12 luatex lxml math mathematics md5 metapost mime moduledata modules mplib noads node nodes number os package pagebuilders parametersets physics profiler regimes resolvers scripts set socket sorters statistics status storage streams string structures table tokens tracers trackers typesetters unicode url utilities visualizers xml zip zlib

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

## global (alias: \_G)

| 1              | table    | fonts           | table    |
|----------------|----------|-----------------|----------|
| arg            | table    | functions       | table    |
| assert         | function | gcinfo          | function |
| attributes     | table    | getfenv         | function |
| backends       | table    | getmetatable    | function |
| beginpage      | function | getreadfilename | function |
| bibtex         | table    | global          | table    |
| blobs          | table    | graphics        | table    |
| boolean        | table    | gzip            | table    |
| buffers        | table    | img             | table    |
| builders       | table    | inspect         | function |
| caches         | table    | interactions    | table    |
| callback       | table    | interfaces      | table    |
| callbacks      | table    | io              | table    |
| catcodes       | table    | ipairs          | function |
| characters     | table    | job             | table    |
| chemistry      | table    | lang            | table    |
| collectgarbage | function | languages       | table    |
| commands       | table    | layouts         | table    |
| containers     | table    | lfs             | table    |
| context        | function | libraries       | table    |
| converters     | table    | lmx             | table    |
| coroutine      | table    | lmxconvert      | function |
| ctxrunner      | table    | lmxnew          | function |
| debug          | table    | load            | function |
| dimen          | function | loadfile        | function |
| dir            | table    | loadstring      | function |
| directives     | table    | logs            | table    |
| document       | table    | lp_fastpos_n    | userdata |
| documentdata   | table    | lp_fastpos_p    | userdata |
| dofile         | function | lpdf            | table    |
| endpage        | function | lpeg            | table    |
| environment    | table    | ltn12           | table    |
| epdf           | table    | lua             | table    |
| error          | function | luatex          | table    |
| experiments    | table    | lxml            | table    |
| figures        | table    | math            | table    |
| file           | table    | mathematics     | table    |
| floats         | table    | md5             | table    |
| font           | table    | metapost        | table    |
| fontloader     | table    | mime            | table    |
|                |          |                 |          |

| module            | function | socket           | table    |
|-------------------|----------|------------------|----------|
| moduledata        | table    | sorters          | table    |
| modules           | table    | statistics       | table    |
| mplib             | table    | status           | table    |
| newline           | function | storage          | table    |
| newproxy          | function | streams          | table    |
| next              | function | string           | table    |
| noads             | table    | stripmath        | function |
| node              | table    | structures       | table    |
| nodes             | table    | table            | table    |
| number            | table    | tex              | table    |
| os                | table    | texconfig        | table    |
| outputpagestree   | function | texio            | table    |
| package           | table    | toboolean        | function |
| pagebuilders      | table    | token            | table    |
| pairs             | function | tokens           | table    |
| parametersets     | table    | tonumber         | function |
| pcall             | function | tostring         | function |
| pdf               | table    | trace_characters | boolean  |
| physics           | table    | traceback        | function |
| print             | function | tracers          | table    |
| profiler          | table    | trackers         | table    |
| protect           | function | type             | function |
| rawequal          | function | typesetters      | table    |
| rawget            | function | unicode          | table    |
| rawset            | function | unpack           | function |
| regimes           | table    | url              | table    |
| report_characters | function | utf              | table    |
| require           | function | utilities        | table    |
| resolvers         | table    | visualizers      | table    |
| scripts           | table    | xml              | table    |
| select            | function | xmlconvert       | function |
| set               | table    | xpcall           | function |
| setfenv           | function | zip              | table    |
| setmetatable      | function | zlib             | table    |
|                   |          |                  |          |

#### attributes (context)

| colorintents      | table     | 11   | none           |            |
|-------------------|-----------|------|----------------|------------|
| N attribute       |           |      | popset         |            |
| D data            |           |      | pushset        |            |
| F enable          |           |      | register       |            |
| F handler         |           |      | registered     |            |
| F register        |           |      | registerspotco | lor        |
| D registered      |           |      | rgb            |            |
| colors            | table     |      | rgbtocmyk      |            |
| N attribute       |           |      | rgbtogray      |            |
| F cmyk            |           |      | rgbtohsv       |            |
| F cmyktogray      |           |      | selector       |            |
| F cmyktorgb       |           | F    | setlist        |            |
| F colorcomponent  | S         | F    | setmodel       |            |
| B couple          |           | D    | sets           |            |
| D data            |           | F    | spec           |            |
| N default         |           | F    | spot           |            |
| F defineintermed  | iatecolor | F    | spotcolorname  |            |
| F definemixcolor  |           | F    | spotcolorparen | t          |
| F definemultiton  | ecolor    | F    | spotcolorvalue |            |
| F defineprocesso  | olor      | В    | supported      |            |
| F definesimplegra | ay        | F    | transparencyco | mponents   |
| F definespotcolo  | r         | В    | triggering     |            |
| F definetranspar  | ency      | F    | usecolors      |            |
| F enable          |           | F    | value          |            |
| F filter          |           | D    | values         |            |
| F forcedmodel     |           | В    | weightgray     |            |
| F forcesupport    |           | defi | ne             | function   |
| F formatcolor     |           | effe | cts            | table      |
| F formatgray      |           | N    | attribute      |            |
| F gray            |           | D    | data           |            |
| F graytohsv       |           | F    | enable         |            |
| F handler         |           | F    | handler        |            |
| F hsvtogray       |           |      | register       |            |
| F hsvtorgb        |           |      | registered     |            |
| F iccprofile      |           |      | values         |            |
| F isblack         |           |      | lers           | table      |
| N main            |           | list |                | data table |
| S model           |           | name | _              | data table |
| D models          |           | _    | tives          | table      |
| F mpcolor         |           |      | attribute      |            |
| F mpoptions       |           | D    | data           |            |

F enable
F handler
F register
D registered

numbers data table
ofnode function
private function
showcurrent function
states table

F disabletriggering

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

#### transparencies table

D data
F enable
F forcesupport
F handler

N attribute

U none F register D registered B supported
B triggering
F value

D values

N attribute
D data
F define
F enable
F forcesupport
F handler
B hasorder
D listwise
F register

D registered
F resolve\_begin
F resolve end

F resolve\_step

D scopes
F setfeatures
F start

B supported

F stop

D values

#### backends (context)

F registerdocumentcloseaction

codeinjections table F registerdocumentopenaction F synchronizecolormodel F registeredsymbol current strina F registerpagecloseaction table defaults F registerpageopenaction T codeinjections F registersymbol T nodeiniections F setfieldcalculationset T registrations F setfigurealternative D tables F setfigurecolorspace install function F setfiguremask nodeinjections table F setformat F setformsmethod F restore F save F setpagetransition F transform F setupcanvas function nothina F setupidentity pdf table F setxmpfile T codeinjections F startlayer F addbookmarks F stoplaver F attachmentid F supportedformats F clonefield F useviewerlaver F definefield F validfield E definefieldset F validfieldcategory F defineviewerlaver F validfieldset F embedfile S comment F enabletags T nodeinjections F exportformdata F addtags F finalizepage F attachfile F finishreference F changestackedlayer F getdefaultfieldvalue F cmykcolor F getfieldcategory F comment F getfieldset F destination F getformatoption F effect F getoutputfilename F graycolor F getpreviewfigure F injectbitmap F insertrenderingwindow F insertmovie F mergereferences F insertsound F insertswf F mergeviewerlayers F prerollreference F insertu3d F knockout F presetsymbol F presetsymbollist F negative F processrendering 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

F getspotcolorreference

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

T tables

D vfspecials

registrations table tables table

#### bibtex (context)

F filterall

| authorref<br>authors | function<br>table | F flush<br>F nofregistered |          |
|----------------------|-------------------|----------------------------|----------|
| F concat             |                   | F process                  |          |
| F inverted           |                   | F register                 |          |
| F invertedshort      |                   | F registerplaced           |          |
| F normal             |                   | F reset                    |          |
| F normalshort        |                   | F resolve                  |          |
| F setsettings        |                   | load                       | function |
| F short              |                   | new                        | function |
| authoryearref        | function          | singularorplural           | function |
| authoryearsref       | function          | statistics                 | table    |
| convert              | function          | N nofbytes                 |          |
| hacks                | table             | N nofdefinitions           |          |
| F add                |                   | N nofshortcuts             |          |
| F doifalreadyplace   | d                 | toxml                      | function |

#### blobs (context)

| append     | function | new   | function |
|------------|----------|-------|----------|
| dimensions | function | pack  | function |
| dispose    | function | write | function |

#### boolean (context)

tocontext function

tonumber function

#### buffers (context)

append function
assign function
collectcontent function
erase function
exists function
getcontent function

getlines function
parallel table

F define

F hassomecontent

F next
F place
F reset
F save

raw function

#### builders (context)

| kernel     | table          | F optimize            |
|------------|----------------|-----------------------|
| F hyphena  | ation          | T registered          |
| F kerning  |                | F reset               |
| F ligatur  | ring           | F set                 |
| F mlist_t  | to_hlist       | F split               |
| paragraphs | <b>s</b> table | F start               |
| T constru  | uctors         | F stop                |
| N attri    | bute           | F tag                 |
| F defin    | e              | <b>vspacing</b> table |
| F disab    | le             | F analyze             |
| F enabl    | е              | D categories          |
| F handl    | er             | F collapsevbox        |
| T metho    | ds             | T data                |
| F defa     | ault           | D map                 |
| F one      | line           | D skip                |
| D names    |                | D snapmethods         |
| D numbe    | rs             | F definesnapmethod    |
| F set      |                | B fixed               |
| F start    |                | F pagehandler         |
| F stop     |                | F setmap              |
| F keeptog  | gether         | F setskip             |
| F registe  | ertogether     | F snapbox             |
| T solutio  | ons            | F tocategories        |
| T split    | ters           | F tocategory          |
| F def:     | ine            | F vboxhandler         |
|            |                |                       |

## caches (context)

| ask                  | boolean  |
|----------------------|----------|
| base                 | string   |
| collapsecontent      | function |
| configfiles          | function |
| contentstate         | function |
| defaults             | table    |
| define               | function |
| direct               | boolean  |
| force                | boolean  |
| getfirstreadablefile | function |
| getreadablepaths     | function |
| getwritablepath      | function |
| hashed               | function |

| is_writable                  | function |
|------------------------------|----------|
| loadcontent                  | function |
| loaddata                     | function |
| more                         | string   |
| relocate                     | boolean  |
| savecontent                  | function |
| savedata                     | function |
| ${\tt setfirstwritablefile}$ | function |
| setluanames                  | function |
| tree                         | string   |
| treehash                     | function |
| usedpaths                    | function |

#### callback (basic tex)

find function
list function

register overloaded function

#### callbacks (context)

| freeze | function   | push     | function |
|--------|------------|----------|----------|
| known  | function   | register | function |
| list   | data table | report   | function |
| pop    | function   |          |          |

#### catcodes (context)

names data table
numbers data table

register function

#### characters (context)

| activeoffset | number     | lccode               | function   |
|--------------|------------|----------------------|------------|
| adobename    | function   | lccodes              | data table |
| bidi         | data table | lettered             | function   |
| blocks       | data table | lower                | function   |
| casemap      | table      | makeactive           | function   |
| categories   | data table | math                 | table      |
| category     | function   | mathpairs            | data table |
| categorytags | data table | ranges               | data table |
| combined     | data table | registerentities     | function   |
| contextname  | function   | remap_hangul_syllabe | function   |
| data         | data table | remapentity          | function   |
| decomposed   | data table | safechar             | function   |
| define       | function   | setcodes             | function   |
| description  | function   | shape                | function   |
| descriptions | data table | shaped               | function   |
| directions   | table      | shchars              | data table |
| enccodes     | data table | shcodes              | data table |
| entities     | data table | specialchars         | data table |
| fallbacks    | data table | specials             | data table |
| filters      | data table | subscripts           | table      |
| fromnumber   | function   | superscripts         | table      |
| fschars      | data table | synonyms             | data table |
| fscodes      | data table | tex                  | table      |
| getrange     | function   | D accentmapping      |            |
| graphemes    | data table | F defineaccents      |            |
| hangul       | data table | F toutf              |            |
| initialize   | function   | tonumber             | function   |
| is_character | data table | ucchars              | data table |
| is_command   | data table | uccode               | function   |
| is_letter    | data table | uccodes              | data table |
| is_mark      | data table | unicodechar          | function   |
| is_spacing   | data table | upper                | function   |
| lcchars      | data table |                      |            |
|              |            |                      |            |

## chemistry (context)

| component | function | moleculeparser | userdata |
|-----------|----------|----------------|----------|
| define    | function | start          | function |
| format    | string   | stop           | function |
| instance  | string   | structures     | number   |
| molecule  | function | undefine       | function |

#### commands (context)

| Alphabetic              | function | autofinishstructurelevels | function |
|-------------------------|----------|---------------------------|----------|
| Character               | function | autonextspace             | function |
| Characters              | function | autonextstructurelevel    | function |
| MPc                     | function | autosetups                | function |
| MPd                     | function | autostarttext             | function |
| MPh                     | function | autostoptext              | function |
| MPll                    | function | bcolumn                   | function |
| MPlr                    | function | boolcase                  | function |
| MPls                    | function | character                 | function |
| MPn                     | function | characters                | function |
| МРр                     | function | checkcharactersinfont     | function |
| MPpardata               | function | checkcountersetup         | function |
| MPplus                  | function | checkedconversion         | function |
| MPpos                   | function | checkedpagefloat          | function |
| MPposset                | function | checktwopassdata          | function |
| MPr                     | function | chemicalcomponent         | function |
| MPrest                  | function | chineseallnumerals        | function |
| MPrs                    | function | chinesecapnumerals        | function |
| MPul                    | function | chinesenumerals           | function |
| MPur                    | function | cleanfontname             | function |
| MPw                     | function | cleanuplayers             | function |
| MPx                     | function | clonefield                | function |
| MPxy                    | function | collectfloat              | function |
| MPxywhd                 | function | collecthelp               | function |
| MPy                     | function | colorcomponents           | function |
| Romannumerals           | function | concatcommalist           | function |
| abjadnodotnumerals      | function | consultfloat              | function |
| abjadnumerals           | function | copyfiletolog             | function |
| addcounter              | function | copyposition              | function |
| addff                   | function | countervalue              | function |
| addfs                   | function | counttwopassdata          | function |
| addlinklistelement      | function | currentcomponent          | function |
| addtojavascriptpreamble | function | currentdate               | function |
| addtolist               | function | currentenvironment        | function |
| allinputpaths           | function | currentproduct            | function |
| alphabetic              | function | currentproject            | function |
| analysefloatmethod      | function | currentreferenceorder     | function |
| analyzelist             | function | currentregime             | function |
| applytochars            | function | datasetvariable           | function |
| applytowords            | function | dayname                   | function |
| assignbuffer            | function | defineattribute           | function |

| definebibtexsession     | function | doifblackelse                 | function |
|-------------------------|----------|-------------------------------|----------|
| definebreakpoint        | function | doifcommonelse                | function |
| definebreakpoints       | function | doifcounter                   | function |
| definecharacterspacing  | function | doifdimenstringelse           | function |
| definechemical          | function | doifdrawingblackelse          | function |
| defineconversion        | function | doifelse                      | function |
| definecounter           | function | doifelsebuffer                | function |
| definedviewerlayer      | function | doifelsecounter               | function |
| definefield             | function | doifelsecurrentfonthasfeature | function |
| definefieldset          | function | doifelseintwopassdata         | function |
| definefilefallback      | function | doifelsemarking               | function |
| definefilesynonym       | function | doifelsemessage               | function |
| definefont_one          | function | doifelsemultipar              | function |
| definefont_two          | function | doifelseparallel              | function |
| definefontfeature       | function | doifelsepositionsused         | function |
| definefontsolution      | function | doifelserangeonpage           | function |
| defineinsertion         | function | doifelsereference             | function |
| defineintermediatecolor | function | doifelsesavedfloat            | function |
| definelabels            | function | doifelsespaces                | function |
| definelanguage          | function | doifelseutfmathaccent         | function |
| definelinkedlist        | function | doifelsevisualizer            | function |
| definemarking           | function | doiffieldcategoryelse         | function |
| definemultitonecolor    | function | doiffieldelse                 | function |
| definenote              | function | doiffieldsetelse              | function |
| defineparallel          | function | doiffiledefinedelse           | function |
| defineparbuilder        | function | doiffileexistelse             | function |
| defineprocesscolor      | function | doiffirstcharelse             | function |
| defineprogram           | function | doifinputfileelse             | function |
| definereference         | function | doifinsetelse                 | function |
| definesectionlevels     | function | doifleapyearelse              | function |
| definespotcolor         | function | doiflisthasentry              | function |
| definestructureblock    | function | doiflisthasnumberelse         | function |
| definestructureset      | function | doiflisthaspageelse           | function |
| definetransparency      | function | doiflisthastitleelse          | function |
| definetwopasslist       | function | doiflocfileelse               | function |
| defineviewerlayer       | function | doifnot                       | function |
| defrostrandomseed       | function | doifnotcounter                | function |
| digits                  | function | doifnotecontent               | function |
| disableparbuilder       | function | doifnoteonsamepageasprevious  | function |
| disableregime           | function | doifobjectreferencefoundelse  | function |
| disablespellchecking    | function | doifolderversionelse          | function |
| discardfromlist         | function | doifoverlappingelse           | function |
| doanalyzeframedbox      | function | doifparentfileelse            | function |
| doif                    | function | doifposition                  | function |

| doifpositionelse            | function | fontchar                    | function |
|-----------------------------|----------|-----------------------------|----------|
| doifpositiononpage          | function | fontcollectionclone         | function |
| doifpositionsonsamepageelse | function | fontcollectiondefine        | function |
| doifpositionsonthispageelse | function | fontcollectionprepare       | function |
| doifurldefinedelse          | function | fontcollectionregister      | function |
| doprocesstypescriptfile     | function | fontcollectionreport        | function |
| doreshapeframedbox          | function | fontcollectionreset         | function |
| dostarttextfile             | function | fontlookupgetkey            | function |
| dostoptextfile              | function | fontlookupgetkeyofindex     | function |
| ecolumn                     | function | fontlookupinitialize        | function |
| elapsedtime                 | function | fontlookupnoffound          | function |
| enablecolor                 | function | forceendjob                 | function |
| enablecolorintents          | function | forcequitjob                | function |
| enablefontcolorschemes      | function | format                      | function |
| enableparbuilder            | function | formatcolor                 | function |
| enableregime                | function | formatgray                  | function |
| enablespellchecking         | function | freezerandomseed            | function |
| enabletransparency          | function | from                        | function |
| enhancelinkedlist           | function | getbuffer                   | function |
| enhancelist                 | function | getbufferctxlua             | function |
| enhancereference            | function | getbuffermkvi               | function |
| erasebuffer                 | function | getcommandline              | function |
| expandcurrentreference      | function | getctxfile                  | function |
| exportformdata              | function | getcurrentprefixspec        | function |
| exportreferences            | function | getcurrentreferencemetadata | function |
| featureattribute            | function | getdefaultfieldvalue        | function |
| featurelist                 | function | getfieldcategory            | function |
| feedback                    | function | getfirstcharacter           | function |
| fetchallmarks               | function | getfirsttwopassdata         | function |
| fetchmultipar               | function | getfloatvariable            | function |
| fetchmultishape             | function | getinternalreference        | function |
| fetchonemark                | function | getlasttwopassdata          | function |
| fetchposboxes               | function | getmarking                  | function |
| fetchtwomarks               | function | getmessage                  | function |
| filterdefaultreference      | function | getnotestate                | function |
| filterreference             | function | getprivateattribute         | function |
| finalizebox                 | function | getprivatechar              | function |
| findtwopassdata             | function | getprogram                  | function |
| firstcountervalue           | function | getrandomcounta             | function |
| firstinset                  | function | getrandomcountb             | function |
| flushfloat                  | function | getrandomseed               | function |
| flushnotes                  | function | getreadfilename             | function |
| flushpostponedblocks        | function | getsubstring                | function |
| flushpostponednotes         | function | gettexbuffer                | function |

| actt innecedate        | function    | loadfortmodics             | function |
|------------------------|-------------|----------------------------|----------|
| gettwopassdata         | function    | loadfontgoodies            | function |
| gettwopassdatalist     | function    | loadspellchecklist         | function |
| geturl                 |             | loadtypescriptfile         |          |
| grabbuffer             | function    | loadvisualizer             | function |
| helpaction             | function    | locatefilepath             | function |
| helpreference          | function    | locfilename                | function |
| hexstringtonumber      | function    | logoptions                 | function |
| hour                   | function    | markregionbox              | function |
| hyphenatedlist         | function    | mathrenderset              | function |
| hyphenatedurl          | function    | maxitemwidth               | function |
| D characters           |             | minute                     | function |
| N lefthyphenmin        |             | mixcleanup                 | function |
| D mapping              |             | mixfinalize                | function |
| N righthyphenmin       |             | mixflushlist               | function |
| F setcharacters        |             | mixflushrest               | function |
| incrementedcounter     | function    | mixgetsplit                | function |
| initializetextrackers  | function    | mixsetsplit                | function |
| injectcurrentreference | function    | mixstate                   | function |
| injectreference        | function    | molecule                   | function |
| inlinechemical         | function    | month                      | function |
| insertattachment       | function    | monthmnem                  | function |
| insertcomment          | function    | monthname                  | function |
| insertfield            | function    | mpcolor                    | function |
| insertionnumber        | function    | mpoptions                  | function |
| insertrenderingwindow  | function    | namedstructureuservariable | function |
| insertsoundclip        | function    | namedstructurevariable     | function |
| installedlanguages     | function    | nbfs                       | function |
| installtextracker      | function    | nextcountervalue           | function |
| languagenumber         | function    | nextparallel               | function |
| lastcountervalue       | function    | nofdays                    | function |
| lchexnumber            | function    | nofitems                   | function |
| lchexnumbers           | function    | nofstackedfloats           | function |
| leapyear               | function    | notedeltapage              | function |
| linenumbersstageone    | function    | notelistindex              | function |
| linenumbersstagetwo    | function    | notenumberpage             | function |
| listlabel              | function    | noteprefixednumber         | function |
| listlocation           | function    | notesymbolpage             | function |
| listprefixednumber     | function    | notetitle                  | function |
| listprefixedpage       | function    | ntimes                     | function |
| listrealpage           | function    | number                     | function |
| listsize               | function    | numbers                    | function |
| listtitle              | function    | objectnumber               | function |
| listuserdata           | function    | objectpage                 | function |
| loadexamodes           | function    | octnumber                  | function |
| 2000CAUIIOUCS          | . and citon | o chamber                  | Tanceron |

| octstringtonumber    | function | registerattachment         | function |
|----------------------|----------|----------------------------|----------|
| ordinal              | function | registerbibtexentry        | function |
| overloadbookmark     | function | registerbibtexfile         | function |
| pagestaterealpage    | function | registerbookmark           | function |
| parpos               | function | registerbuttons            | function |
| pdfrotation          | function | registercolor              | function |
| percentageof         | function | registercolorintent        | function |
| pgfxcolorspec        | function | registeredviewerlayer      | function |
| placeparallel        | function | registerhelp               | function |
| popfloat             | function | registeritemgroup          | function |
| popitaliccorrection  | function | registerlinenumbering      | function |
| poplist              | function | registermaintextcolor      | function |
| popregime            | function | registernamespace          | function |
| popsectionblock      | function | registerpostponedblock     | function |
| pos                  | function | registerrendering          | function |
| posplus              | function | registersoundclip          | function |
| posstrut             | function | registerstructureprocessor | function |
| postponenotes        | function | registertransparency       | function |
| poswhd               | function | registerunit               | function |
| posxy                | function | relatemarking              | function |
| prepareMPvariable    | function | removemissingcharacters    | function |
| preparebibtexsession | function | renderingvar               | function |
| preparedfile         | function | replacemissingcharacters   | function |
| presetsymbollist     | function | replacepospxywhd           | function |
| presettabulate       | function | resavefloat                | function |
| prevcountervalue     | function | resetcounter               | function |
| processbuffer        | function | resetfontfeature           | function |
| processedfile        | function | resetfontsolution          | function |
| processedfiles       | function | resetmarking               | function |
| processfile          | function | resetmathitalics           | function |
| processfilemany      | function | resetnullfont              | function |
| processfilenone      | function | resetparallel              | function |
| processfileonce      | function | resetreference             | function |
| processlist          | function | resetstructureprocessor    | function |
| pushfloat            | function | resettimer                 | function |
| pushitaliccorrection | function | restartcounter             | function |
| pushlist             | function | restorecounter             | function |
| pushregime           | function | restorecurrentattributes   | function |
| pushsectionblock     | function | restorenote                | function |
| rawcharacter         | function | romannumerals              | function |
| rawcountervalue      | function | runbuffer                  | function |
| rawdate              | function | safechar                   | function |
| referencepagestate   | function | savebuffer                 | function |
| referencerealpage    | function | savecounter                | function |
|                      |          |                            |          |

| savecurrentattributes   | function | setlanguagesynonym           | function |
|-------------------------|----------|------------------------------|----------|
| savedlistnumber         | function | setlayer                     | function |
| savedlistprefixednumber | function | setmarking                   | function |
| savedlisttitle          | function | setmathalphabet              | function |
| savefloat               | function | setmathalternate             | function |
| savenote                | function | setmathattribute             | function |
| saveobject              | function | setmathitalics               | function |
| saveparallel            | function | setmathstyle                 | function |
| savestructureblock      | function | setnextinternalreference     | function |
| savetaggedtwopassdata   | function | setnotestate                 | function |
| savetwopassdata         | function | setnotesymbolpage            | function |
| second                  | function | setobject                    | function |
| selectstructureblock    | function | setopendocumentaction        | function |
| setbreakpoints          | function | setopenpageaction            | function |
| setcharactercasing      | function | setowncounter                | function |
| setcharactercleaning    | function | setpagestate                 | function |
| setcharacterkerning     | function | setpagestaterealpageno       | function |
| setcharacterspacing     | function | setpagetransition            | function |
| setcharacterstripping   | function | setparbuilder                | function |
| setclosedocumentaction  | function | setpos                       | function |
| setclosepageaction      | function | setrandomseed                | function |
| setcolormodel           | function | setrealign                   | function |
| setcounter              | function | setreferencearguments        | function |
| setdataset              | function | setreferenceattribute        | function |
| setdigitsmanipulation   | function | setreferenceoperation        | function |
| setdirection            | function | setsectionblock              | function |
| setdocumentenvironments | function | setstructureblockstate       | function |
| setdocumentfilenames    | function | settagcombination            | function |
| setdocumentmodes        | function | settagdescription            | function |
| setdocumentmodules      | function | settagdescriptionsymbol<br>- | function |
| setfigurelookuporder    | function | settagfigure                 | function |
| setfontfeature          | function | settaghighlight              | function |
| setfontofid             | function | settagitemgroup              | function |
| setfontsolution         | function | settagproperty               | function |
| setformat               | function | settagsorting                | function |
| setformsmethod          | function | settagsynonym                | function |
| setinsertionlocation    | function | settagtablecell              | function |
| setinterfaceconstant    | function | settagtabulatecell           | function |
| setinterfaceelement     | function | setupbookmarks               | function |
| setinterfacemessage     | function | setupcanvas<br>              | function |
| setinterfacemessages    | function | setupcharacterspacing        | function |
| setinterfacevariable    | function | setupexport                  | function |
| setinternalreference    | function | setupfontexpansion           | function |
| setlanguageexceptions   | function | setupfontprotrusion          | function |

| setupidentity         | function | storejavascriptcode       | function |
|-----------------------|----------|---------------------------|----------|
| setupinsertion        | function | storejavascriptpreamble   | function |
| setupitaliccorrection | function | storenote                 | function |
| setuplinenumbering    | function | structureautocatcodedget  | function |
| setvisual             | function | structurecatcodedget      | function |
| setxmpfile            | function | structuregivencatcodedget | function |
| showassignerror       | function | structurenumber           | function |
| showattributes        | function | structuretitle            | function |
| showcallbacks         | function | structureuservariable     | function |
| showchardata          | function | structurevariable         | function |
| showcounter           | function | subcountervalues          | function |
| showfontparameters    | function | subff                     | function |
| showhyphenatedinlist  | function | subfs                     | function |
| showmessage           | function | synchronizecolormodel     | function |
| splitfilename         | function | synchronizemarking        | function |
| spotcolorname         | function | taggedmathfunction        | function |
| spotcolorparent       | function | testcase                  | function |
| spotcolorvalue        | function | textime                   | function |
| startchemical         | function | transparencycomponents    | function |
| startcolorset         | function | triggereffect             | function |
| startcomponent        | function | triggernegative           | function |
| startenvironment      | function | truefilename              | function |
| startfontsolution     | function | typebuffer                | function |
| startparbuilder       | function | typefile                  | function |
| startproduct          | function | typestring                | function |
| startproject          | function | uchexnumber               | function |
| startregime           | function | uchexnumbers              | function |
| startsectionlevel     | function | undefinechemical          | function |
| starttag              | function | unicodechar               | function |
| starttext             | function | unit                      | function |
| startviewerlayer      | function | unloadlanguage            | function |
| stopchemical          | function | useMPlibrary              | function |
| stopcolorset          | function | useanyfile                | function |
| stopcomponent         | function | usecldfile                | function |
| stopenvironment       | function | usecolors                 | function |
| stopfontsolution      | function | usecomponent              | function |
| stopparbuilder        | function | useenvironment            | function |
| stopproduct           | function | usefile                   | function |
| stopproject           | function | usejavascriptpreamble     | function |
| stopregime            | function | usejavascriptscripts      | function |
| stopsectionlevel      | function | uselibrary                | function |
| stoptag               | function | useluafile                | function |
| stoptext              | function | usemodules                | function |
| stopviewerlayer       | function | usepath                   | function |

| useproduct        | function | way                        | function |
|-------------------|----------|----------------------------|----------|
| useproject        | function | weekday                    | function |
| usesubpath        | function | weekdayname                | function |
| usesymbols        | function | widthofstring              | function |
| usetexfile        | function | writestatus                | function |
| useurl            | function | x_table_cleanup            | function |
| usexmlfile        | function | x_table_construct          | function |
| usezipfile        | function | x_table_create             | function |
| utfchar           | function | x_table_flush              | function |
| utfmathclass      | function | x_table_init_construct     | function |
| utfmathcommand    | function | x_table_init_reflow_height | function |
| utfmathfiller     | function | x_table_init_reflow_width  | function |
| utfmathstretch    | function | x_table_next_row           | function |
| visual            | function | x_table_reflow_height      | function |
| vspacing          | function | x_table_reflow_width       | function |
| vspacingcollapse  | function | x_table_set_construct      | function |
| vspacingdefine    | function | x_table_set_reflow_height  | function |
| vspacingsetamount | function | x_table_set_reflow_width   | function |
| vspacingsnap      | function | year                       | function |

#### containers (context)

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

#### converters (context)

| Alphabetic         | function |
|--------------------|----------|
| Character          | function |
| Characters         | function |
| Romannumerals      | function |
| abjadnodotnumerals | function |
| abjadnumerals      | function |
| alphabetic         | function |
| character          | function |
| characters         | function |
| chineseallnumerals | function |
| chinesecapnumerals | function |
| chinesenumerals    | function |
| chr                | function |
| chrs               | function |
| convert            | function |
| define             | function |
| hexstringtonumber  | function |
| hour               | function |
| isleapyear         | function |
| lchexnumber        | function |
| lchexnumbers       | function |
| leapyear           | function |
|                    |          |

| maxchrs           | function   |  |
|-------------------|------------|--|
| minute            | function   |  |
| month             | function   |  |
| nofdays           | function   |  |
| number            | function   |  |
| numbers           | function   |  |
| octnumber         | function   |  |
| octstringtonumber | function   |  |
| ordinal           | function   |  |
| rawcharacter      | function   |  |
| romannumerals     | function   |  |
| second            | function   |  |
| sequences         | data table |  |
| textime           | function   |  |
| toabjad           | function   |  |
| tochinese         | function   |  |
| toroman           | function   |  |
| uchexnumber       | function   |  |
| uchexnumbers      | function   |  |
| weekday           | function   |  |
| year              | function   |  |

#### coroutine (basic lua)

| сосо       | boolean  | running | function |
|------------|----------|---------|----------|
| create     | function | status  | function |
| cstacksize | function | wrap    | function |
| resume     | function | yield   | function |

#### ctxrunner (context)

load function
prepfiles data table

resolve function

## debug (basic lua)

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

#### dir (context)

| collectpattern | function | ls   |
|----------------|----------|------|
| current        | function | make |
| expandname     | function | mkdi |
| glob           | function | рор  |
| globfiles      | function | push |
| globpattern    | function |      |

#### directives (context)

| data    | data table | name     | string   |
|---------|------------|----------|----------|
| disable | function   | register | function |
| enable  | function   | report   | function |
| list    | function   | show     | function |

#### document (context)

arguments files getargument getfilename options data table table function function table T ctxfile
D environments
D modes
D modules

setargument function
setdefaultargument function
setfilename function
variables data table

D environments

D modes
D modules

#### environment (context)

| argument            | function |       |
|---------------------|----------|-------|
| arguments           | data     | table |
| default_texmfcnf    | string   |       |
| engineflags         | data     | table |
| filename            | string   |       |
| files               | table    |       |
| filesynonyms        | data     | table |
| getargument         | function |       |
| homedir             | string   |       |
| initex              | boolean  |       |
| initializearguments | function |       |
| initializefilenames | function |       |
| inputfilebarename   | string   |       |
| inputfilename       | string   |       |
| inputfilesuffix     | string   |       |
| jobfilename         | strir    | ıg    |
| jobfilesuffix       | string   |       |
| loadluafile         | function |       |
|                     |          |       |

| luafile                | function   |  |
|------------------------|------------|--|
| luafilechunk           | function   |  |
| originalarguments      | data table |  |
| outputfilename         | string     |  |
| ownbin                 | string     |  |
| ownname                | string     |  |
| ownpath                | string     |  |
| rawarguments           | data table |  |
| reconstructcommandline | function   |  |
| setargument            | function   |  |
| splitarguments         | function   |  |
| suffix                 | string     |  |
| texfile                | function   |  |
| texmfos                | string     |  |
| texos                  | string     |  |
| texroot                | string     |  |
| truefilename           | function   |  |
|                        |            |  |

#### epdf (extra tex)

ArrayfunctionPDFRectanglefunctionDictfunctionopenfunctionObjectfunctiontypefunction

# experiments (context)

| data    | data table | name     | string   |
|---------|------------|----------|----------|
| disable | function   | register | function |
| enable  | function   | report   | function |
| list    | function   | show     | function |

# figures (context)

| applyratio bases  B enabled F find T found T list F locate F use T used | function<br>table | hash identifiers identify include includers initialize loaded localpaths magics | function data table function function data table function data table data table data table |
|---|-------------------|---|--|
| bitmapimage   | function          | mergegoodies  | function   |
| boxnumber   | number            | nofprocessed  | number   |
| cachepaths  | data table        | paths   | data table   |
| check   | function          | patterns  | data table   |
| checkers  | data table        | pop   | function   |
| converters  | data table        | preferquality   | boolean  |
| current   | function          | programs  | data table   |
| defaultdepth  | number            | push  | function   |
| defaultheight   | number            | registerpattern   | function   |
| defaultsearch   | boolean           | registerresource  | function   |
| defaultwidth  | number            | registersuffix  | function   |
| done  | function          | resources   | data table   |
| dummy   | function          | scale   | function   |
| existers  | data table        | setlookups  | function   |
| exists  | function          | setorder  | function   |
| formats   | data table        | setpaths  | function   |
| found   | data table        | suffixes  | data table   |
| get   | function          | tprint  | function   |
| guess   | function          | used  | data table   |

## file (basic lua)

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

## floats (context)

| analysemethod    | function | nofstacked | function |
|------------------|----------|------------|----------|
| checkedpagefloat | function | pop        | function |
| collect          | function | push       | function |
| consult          | function | resave     | function |
| flush            | function | save       | function |
| getvariable      | function | stacked    | function |

## font (basic tex)

| current | function | id       | function |
|---------|----------|----------|----------|
| define  | function | max      | function |
| each    | function | nextid   | function |
| fonts   | table    | read_tfm | function |
| frozen  | function | read_vf  | function |
| getfont | function | setfont  | function |

## fontloader (extra tex)

| apply_afmfile     | function | info     | function |
|-------------------|----------|----------|----------|
| apply_featurefile | function | open     | function |
| close             | function | to_table | function |
| fields            | function | totable  | function |
| fullinfo          | function |          |          |

## fonts (context)

| analyzers       | table      | F collectprocessors  |
|-----------------|------------|----------------------|
| T constants     |            | D designsizes        |
| N blwf          |            | D dontembed          |
| N fina          |            | F enhanceparameters  |
| N half          |            | N factor             |
| N init          |            | F finalize           |
| N isol          |            | F getfeatureaction   |
| N medi          |            | F hashfeatures       |
| N pref          |            | F hashinstance       |
| N pstf          |            | T hashmethods        |
| N rphf          |            | F normal             |
| D initializers  |            | F virtual            |
| D methods       |            | F initializefeatures |
| F setstate      |            | T keys               |
| B useunicodemar | ks         | T character          |
| checkers        | table      | S depth              |
| F missing       |            | S height             |
| cid             | table      | S italic             |
| F getmap        |            | S width              |
| F loadfile      |            | T description        |
| collections     | table      | T boundingbox        |
| F clonevector   |            | S depth              |
| F define        |            | S height             |
| T definitions   |            | S width              |
| F prepare       |            | T parameters         |
| F process       |            | S ascender           |
| F registermain  |            | S descender          |
| F report        |            | S designsize         |
| F reset         |            | T expansion          |
| T vectors       |            | S auto               |
| constructors    | table      | S shrink             |
| F aftercopyingo |            | S step               |
| F applymanipula |            | S stretch            |
| F assignmathpar | ameters    | S extendfactor       |
| B autocleanup   |            | S factor             |
| F beforecopying | cnaracters | S hfactor            |
| D cache         |            | S mathsize           |
| F calculatescal |            | T protrusion         |
| F checkedfeatur |            | S auto               |
| F checkedfilena | me         | S quad               |
| F cleanuptable  |            | S scaledpoints       |

| S scriptpercentage       | S virtualize     | d        |
|--------------------------|------------------|----------|
| S scriptscriptpercentage | D loadedfonts    |          |
| S size                   | S namemode       |          |
| S slantfactor            | F newfeatures    |          |
| S slantperpoint          | F newhandler     |          |
| T spacing                | N privateoffset  |          |
| S extra                  | F readanddefine  |          |
| S shrink                 | F registerfeatu  | re       |
| S stretch                | B resolvevirtua  | ltoo     |
| S width                  | F scale          |          |
| T synonyms               | F scaled         |          |
| S em                     | F setfactor      |          |
| S ex                     | F setname        |          |
| S extra_space            | N version        |          |
| S extraspace             | current          | function |
| S slant                  | currentid        | function |
| S space                  | definers         | table    |
| S space_shrink           | F addlookup      |          |
| S space_stretch          | F analyze        |          |
| S spaceshrink            | F applypostproc  | essors   |
| S spacestretch           | F checkedmode    |          |
| S x_height               | F checkedscript  |          |
| S units                  | F current        |          |
| S vfactor                | S defaultlookup  |          |
| S xheight                | F define         |          |
| T properties             | F getspecificat: | ion      |
| S autoitalicamount       | F loadfont       |          |
| T cidinfo                | F makespecifica  | tion     |
| S embedding              | T methods        |          |
| S encodingbytes          | F install        |          |
| S filename               | D variants       |          |
| S finalized              | F read           |          |
| S fontname               | F register       |          |
| S format                 | F registered     |          |
| S fullname               | F registersplit  |          |
| S hasitalics             | F resetnullfont  |          |
| S hasmath                | F resolve        |          |
| S mathitalics            | T resolvers      |          |
| S mode                   | F file           |          |
| S name                   | F name           |          |
| S noglyphnames           | F spec           |          |
| S nostackmath            | definetypeface   | function |
| S psname                 | encodings        | table    |
| S textitalics            | T agl            |          |
|                          |                  |          |

D cache F setfeatures F is known B syncspace D known N version T off F load F make unicode vector F addfeature D cache D math N version T chainhandlers data table expansions F normal formats data table F verbose goodies table F collectlookups D colorschemes F dataset S defaultbasealternate D data D designsizes S defaultnodealternate F getcompositions D enhancers T list D features F compositions F getalternate F designsizes T alists T handlers F expansions F featureset F contextchain F files F gpos context F mathematics F gpos contextchain F protrusions F gpos\_cursive F solutions F gpos\_mark2base F typefaces F gpos\_mark2ligature F load F gpos mark2mark F prepare\_features F gpos pair F gpos\_single F register F registerpostprocessor F gsub alternate F report F gsub context handlers table F gsub\_contextchain Tafm F gsub\_ligature R addkerns F gsub multiple B addligatures F gsub reversecontextchain B addtexligatures F qsub single B autoprefixed F load D cache F scriptandlanguage D features F setcontextchain T helpdata F setdynamics D bothkerned F setfeatures D leftkerned T statistics D ligatures D usedfeatures D rightkerned T tables D baselines D texligatures F load D features

| D languages          | F setdigitwidth           |
|----------------------|---------------------------|
| D scripts            | F splitfontpattern        |
| N version            | <b>iterators</b> table    |
| T pfb                | F characters              |
| T tfm                | F descriptions            |
| D features           | F glyphs                  |
| F setfeatures        | <b>loggers</b> table      |
| T vf                 | T category_to_placeholder |
| T combinations       | S II                      |
| F combine            | S lm                      |
| T combiner           | S lo                      |
| D commands           | S lt                      |
| F find               | S lu                      |
| D helpers            | S mc                      |
| D math               | S me                      |
| D predefined         | S mn                      |
| D whatever           | S nd                      |
| hashes table         | S nl                      |
| D characters         | S no                      |
| D csnames            | S pc                      |
| D descriptions       | S pd                      |
| T dynamics           | S pe                      |
| D emwidths           | S pf                      |
| D exheights          | S pi                      |
| D identifiers        | S po                      |
| D italics            | S ps                      |
| D lastmathids        | S sc                      |
| D marks              | S sk                      |
| D parameters         | S sm                      |
| T processes          | S so                      |
| D properties         | F format                  |
| D quads              | F onetimemessage          |
| D resources          | F register                |
| T setdynamics        | F reportdefinedfonts      |
| D xheights           | F reportusedfeatures      |
| <b>helpers</b> table | <b>mappings</b> table     |
| F addprivate         | F addtounicode            |
| F dimenfactor        | F fromunicode16           |
| F fontpatternhassize | F loadfile                |
| F getdigitwidth      | F loadline                |
| F getparameters      | F loadlumtable            |
| F getprivatenode     | F makenameparser          |
| F hasprivate         | F reset                   |

F tounicode16

F nametoslot

| F tounicode16sed | quence     | D    | contextmerged  |       |
|------------------|------------|------|----------------|-------|
| names            | data table | F    | contextnumber  |       |
| protrusions      | data table | D    | contextnumbers |       |
| readers          | table      | D    | contextsetups  |       |
| F afm            |            | F    | contexttostrin | g     |
| F check_lua      |            | F    | mergecontext   |       |
| F check_tfm      |            | F    | presetcontext  |       |
| F dfont          |            | F    | registercontex | t     |
| F lua            |            | F    | showcontext    |       |
| F opentype       |            | F    | splitcontext   |       |
| F otf            |            | D    | synonyms       |       |
| F pfb            |            | D    | variants       |       |
| D sequence       |            | symb | ols            | table |
| F tfm            |            | F    | uselibrary     |       |
| F ttc            |            | tabl | .es            | table |
| F ttf            |            | trac | ers            | table |

typefaces data table

specifiers table

## functions (context)

**dummy** function

### graphics (context)

#### backgrounds table

F calculatemultipar

F fetchmultipar

F pair

F path

F point

## gzip (extra lua)

close function
lines function

open function

# img (basic tex)

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

#### interactions (context)

D functions

D preambles

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

F register

## interfaces (context)

| addvalidkeys         | function   |  |
|----------------------|------------|--|
| cachedsetups         | data table |  |
| cachesetup           | function   |  |
| complete             | data table |  |
| constants            | data table |  |
| corenamespaces       | data table |  |
| definecommand        | function   |  |
| doifelsemessage      | function   |  |
| elements             | data table |  |
| formats              | data table |  |
| getcheckedparameters | function   |  |
| getmessage           | function   |  |
| hashedsetups         | data table |  |
| interfacedcommand    | function   |  |
| interfaces           | table      |  |
| invalidkey           | function   |  |
| is_command           | function   |  |
| namespaces           | table      |  |

| F define          |                     |  |
|-------------------|---------------------|--|
| F list            |                     |  |
| registernamespace | function            |  |
| setconstant       | function            |  |
| setelement        | function            |  |
| setformat         | function            |  |
| setmessage        | function            |  |
| setmessages       | function            |  |
| settranslation    | function            |  |
| setuserinterface  | <b>ice</b> function |  |
| setvalidkeys      | function            |  |
| setvariable       | function            |  |
| showmessage       | function            |  |
| syntax            | data table          |  |
| tolist            | function            |  |
| translations      | data table          |  |
| variables         | data table          |  |

# io (basic lua)

| ask               | function | T paranoid    |                     |
|-------------------|----------|---------------|---------------------|
| bytes             | function | open          | overloaded function |
| characters        | function | open_ro       | function            |
| close             | function | output        | function            |
| exists            | function | pathseparator | string              |
| fileseparator     | string   | popen         | overloaded function |
| flush             | function | read          | function            |
| i_limiter         | function | readall       | function            |
| <b>i_limiters</b> | table    | readnumber    | function            |
| T paranoid        |          | readstring    | function            |
| input             | function | savedata      | function            |
| limiter           | function | size          | function            |
| lines             | function | stderr        | userdata            |
| loadchunk         | function | stdin         | userdata            |
| loaddata          | function | stdout        | userdata            |
| loadlines         | function | tmpfile       | function            |
| noflines          | function | type          | function            |
| o_limiter         | function | write         | function            |
| o_limiters        | table    |               |                     |

# job (context)

| comment      | function | F getdata              |
|--------------|----------|------------------------|
| datasets     | table    | F getfield             |
| D collected  |          | F gettobesaved         |
| F extend     |          | F inlist               |
| F getdata    |          | F last                 |
| F setdata    |          | F list                 |
| D tobesaved  |          | F save                 |
| disablesave  | function | F savetagged           |
| files        | table    | D tobesaved            |
| D collected  |          | <b>positions</b> table |
| F context    |          | F b_col                |
| B forcerun   |          | F b_region             |
| F run        |          | Fc                     |
| D tobesaved  |          | D collected            |
| initialize   | function | F column               |
| load         | function | F copy                 |
| loadother    | function | F depth                |
| objects      | table    | F e_col                |
| D collected  |          | F e_region             |
| F get        |          | F enhance              |
| F number     |          | F extra                |
| F page       |          | F get                  |
| F save       |          | F getreserved          |
| F set        |          | F hangafter            |
| D tobesaved  |          | F hangindent           |
| pack         | boolean  | F height               |
| pagestates   | table    | F hsize                |
| D collected  |          | F leftskip             |
| F extend     |          | F lowerleft            |
| F realpage   |          | F lowerright           |
| F setstate   |          | F markregionbox        |
| D tobesaved  |          | Fn                     |
| passes       | table    | F onsamepage           |
| F check      |          | F overlapping          |
| D collected  |          | F p                    |
| F count      |          | F page                 |
| F define     |          | F paragraph            |
| F find       |          | F parindent            |
| F first      |          | F position             |
| F get        |          | Fr                     |
| F getcollect | ed       | F region               |
|              |          |                        |

| F replace   |          | structure    | table  |
|-------------|----------|--------------|--------|
| F rightskip |          | D collected  |        |
| F set       |          | T components |        |
| F setall    |          | T tobesaved  |        |
| F setdim    |          | T branches   |        |
| D tobesaved |          | S name       |        |
| F upperleft |          | S type       |        |
| F upperrigh | t        | variables    | table  |
| F width     |          | D checksums  |        |
| Fx          |          | D collected  |        |
| F xy        |          | F save       |        |
| Fy          |          | D tobesaved  |        |
| register    | function | version      | number |

save function

# lang (basic tex)

| clean             | function |
|-------------------|----------|
| clear_hyphenation | function |
| clear_patterns    | function |
| exceptions        | function |
| hyphenate         | function |
| hyphenation       | function |
| id                | function |

| new              | function |
|------------------|----------|
| patterns         | function |
| postexhyphenchar | function |
| posthyphenchar   | function |
| preexhyphenchar  | function |
| prehyphenchar    | function |
|                  |          |

#### languages (context)

associate function associated data table association function counters data table function current data data table define function getnumber function hyphenate function function installed labels table

F define F split

lefthyphenmin function loadable function loadwords function logger table

F report

data table numbers

posthyphenchar function prehyphenchar registered righthyphenmin function setexceptions setsynonym unload version words

function data table function function function number table

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

## layouts (context)

status table
 F isleftpage

 ${\sf F}$  leftorrightpagection

# lfs (extra lua)

| attributes | function            | mkdir             | function |
|------------|---------------------|-------------------|----------|
| chdir      | function            | readlink          | function |
| currentdir | function            | rmdir             | function |
| dir        | function            | setmode           | function |
| isdir      | overloaded function | shortname         | function |
| isfile     | function            | symlinkattributes | function |
| lock       | function            | touch             | function |
| lock_dir   | function            | unlock            | function |

## libraries (context)

basiclua data table
basictex data table
builtin data table

extralua data table
extratex data table
globals data table

#### lmx (context)

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

F a 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 new overloaderror function popupfile function print function pν function function report reset function function result function set function show showdebuginfo function showerror function stripcss function function tν type function urlescape function variable function variables table

- S color-background-blue
- S color-background-body
- S color-background-green
- S color-background-main
- S color-background-purple
- S color-background-yellow
- S title-default

## logs (context)

| application     | function | setmessenger      | function |
|-----------------|----------|-------------------|----------|
| categories      | function | setprogram        | function |
| direct          | function | settarget         | function |
| disable         | function | settranslations   | function |
| enable          | function | show              | function |
| extendbanner    | function | show_close        | function |
| flush           | function | show_load         | function |
| help            | function | show_open         | function |
| messenger       | function | simple            | function |
| new             | function | simpleline        | function |
| newline         | function | simplelines       | function |
| poptarget       | function | start_page_number | function |
| pushtarget      | function | status            | function |
| report          | function | stop_page_number  | function |
| report_job_stat | function | subdirect         | function |
| reportbanner    | function | subreport         | function |
| reporter        | function | system            | function |
| reportline      | function | texerrormessage   | function |
| reportlines     | function | writer            | function |
| setformats      | function |                   |          |

# lpdf (context)

| action                 | function   | id                        | function |
|------------------------|------------|---------------------------|----------|
| adddocumentcolorspace  | function   | injectxmpinfo             | function |
| adddocumentextgstate   | function   | insertxmpinfo             | function |
| adddocumentpattern     | function   | javascript                | function |
| adddocumentshade       | function   | launch                    | function |
| addtocatalog           | function   | layerreference            | function |
| addtoinfo              | function   | limited                   | function |
| addtonames             | function   | linearshade               | function |
| addtopageattributes    | function   | link                      | function |
| addtopageresources     | function   | null                      | function |
| addtopagesattributes   | function   | number                    | function |
| addxmpinfo             | function   | pagedestination           | function |
| array                  | function   | pagereference             | function |
| boolean                | function   | pdfcolor                  | function |
| checkedkey             | function   | pdftimestamp              | function |
| checkedvalue           | function   | protectresources          | boolean  |
| circularshade          | function   | reference                 | function |
| cmykcode               | function   | registerannotation        | function |
| collectedresources     | function   | registerdocumentfinalizer | function |
| color                  | function   | registerpagefinalizer     | function |
| colorspace             | function   | reserveannotation         | function |
| colorspaceconstants    | data table | reserveobject             | function |
| colorspec              | function   | rgbcode                   | function |
| colorvalue             | function   | rotationcm                | function |
| colorvalues            | function   | shareobject               | function |
| constant               | function   | shareobjectreference      | function |
| delayedobject          | function   | spotcode                  | function |
| dictionary             | function   | stream                    | function |
| epdf                   | table      | string                    | function |
| F expand               |            | timestamp                 | function |
| F load                 |            | toeight                   | function |
| finalizedocument       | function   | tosixteen                 | function |
| finalizepage           | function   | transparency              | function |
| finishtransparencycode | function   | transparencycode          | function |
| flushobject            | function   | transparencygroups        | table    |
| flushstreamfileobject  | function   | B none                    |          |
| flushstreamobject      | function   | transparencyvalue         | function |
| formats                | data table | unicode                   | function |
| graycode               | function   | verbose                   | function |

# lpeg (basic lua)

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

## ltn12 (extra lua)

F null

| BLOCKSIZE<br>filter | number<br>table | F simplif<br>F table | у |
|---------------------|-----------------|----------------------|---|
| F chain             |                 | source               | t |
| 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 simplif            | у |
| F file              |                 | F string             |   |

table

## lua (basic tex)

| bytecode       | table      |
|----------------|------------|
| bytedata       | data table |
| bytedone       | table      |
| collectgarbage | function   |
| delay          | function   |
| finalize       | function   |
| firstbytecode  | number     |
| flush          | function   |
| flushdelayed   | function   |
| getbytecode    | function   |
| getluaname     | function   |
| lastbytecode   | number     |

| messages          | data table |
|-------------------|------------|
| name              | table      |
| numbers           | data table |
| registercode      | function   |
| registeredcodes   | function   |
| registerfinalizer | function   |
| registername      | function   |
| setbytecode       | function   |
| setluaname        | function   |
| startupfile       | string     |
| version           | string     |

### luatex (context)

cleanuptempfiles function
registerstartactions function
registerstopactions
registertempfile function

showjobstat showtexstat starttime function function number

# lxml (context)

| addindex          | function   | getid            | function |
|-------------------|------------|------------------|----------|
| all               | function   | getindex         | function |
| applyfunction     | function   | id               | function |
| att               | function   | idsplitter       | userdata |
| attribute         | function   | include          | function |
| chainattribute    | function   | index            | function |
| checkindex        | function   | info             | function |
| collected         | function   | inlineverbatim   | function |
| command           | function   | installsetup     | function |
| concat            | function   | last             | function |
| concatrange       | function   | load             | function |
| content           | function   | loadbuffer       | function |
| context           | function   | loaddata         | function |
| convert           | function   | loaded           | table    |
| count             | function   | loadregistered   | function |
| delete            | function   | main             | function |
| direct            | function   | match            | function |
| directives        | table      | name             | function |
| F after           |            | namespace        | function |
| F before          |            | nonspace         | function |
| F handle          |            | pos              | function |
| F load            |            | position         | function |
| F setup           |            | raw              | function |
| displayverbatim   | function   | rawroot          | function |
| doif              | function   | register         | function |
| doifelse          | function   | registerentity   | function |
| doifelsetext      | function   | removesetup      | function |
| doifnot           | function   | resetcdata       | function |
| doifnottext       | function   | resetsetups      | function |
| doiftext          | function   | resolvedentity   | function |
| element           | function   | root             | function |
| elements          | function   | serialize        | function |
| entities          | data table | setaction        | function |
| filter            | function   | setcdata         | function |
| filterlist        | function   | setcommandtonone | function |
| first             | function   | setcommandtotext | function |
| flush             | function   | setsetup         | function |
| flushlinewise     | function   | snippet          | function |
| flushsetups       | function   | sorters          | table    |
| flushspacewise    | function   | F add            |          |
| <del>get_id</del> | function   | F compare        |          |

| F flush  |          | stripped      | function   |
|----------|----------|---------------|------------|
| F reset  |          | tag           | function   |
| F show   |          | text          | function   |
| F sort   |          | tofile        | function   |
| splitid  | function | toparameters  | function   |
| startraw | function | toverbatim    | function   |
| stopraw  | function | verbatim      | function   |
| store    | function | withindex     | function   |
| strip    | function | xmltexhandler | data table |

## math (basic lua)

| abs         | function | log10          | function |
|-------------|----------|----------------|----------|
| acos        | function | max            | function |
| asin        | function | min            | function |
| atan        | function | mod            | function |
| atan2       | function | modf           | function |
| ceil        | function | odd            | function |
| cos         | function | pi             | number   |
| cosd        | function | pow            | function |
| cosh        | function | rad            | function |
| deg         | function | random         | function |
| div         | function | randomseed     | function |
| even        | function | round          | function |
| exp         | function | setrandomseedi | function |
| floor       | function | sin            | function |
| fmod        | function | sind           | function |
| frexp       | function | sinh           | function |
| huge        | number   | sqrt           | function |
| initialseed | number   | tan            | function |
| ldexp       | function | tand           | function |
| log         | function | tanh           | function |
|             |          |                |          |

## mathematics (context)

| addfallbacks           | function   | overloadparameters     | function |
|------------------------|------------|------------------------|----------|
| alphabets              | data table | privatebase            | number   |
| big                    | function   | remapalphabets         | function |
| boldmap                | table      | renderings             | table    |
| categories             | table      | D mappings             |          |
| D functions            |            | D numbers              |          |
| checkaccentbaseheight  | function   | D sets                 |          |
| checkprivateparameters | function   | renderset              | function |
| classes                | data table | resetitalics           | function |
| codes                  | data table | scaleparameters        | function |
| define                 | function   | setalternate           | function |
| dimensions             | function   | setitalics             | function |
| extrabase              | number     | syncboth               | function |
| extras                 | table      | syncname               | function |
| F add                  |            | syncstyle              | function |
| F copy                 |            | toname                 | function |
| fallbacks              | table      | tostyle                | function |
| F apply                |            | tweakaftercopyingfont  | function |
| F install              |            | tweakbeforecopyingfont | function |
| families               | data table | tweaks                 | table    |
| gaps                   | table      | F fixbadprime          |          |
| getboth                | function   | utfmathclass           | function |
| getstyle               | function   | utfmathcommand         | function |
| initializeparameters   | function   | utfmathfiller          | function |
| makefont               | function   | utfmathstretch         | function |

# md5 (extra lua)

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

# metapost (context)

| analyzeplugins                | function | makempy           | table    |
|-------------------------------|----------|-------------------|----------|
| checkformat                   | function | N nofconverted    |          |
| checktexts                    | function | F processgraphics |          |
| colorinitializer              | function | metafun           |          |
| convert                       | function | F interpolate     | table    |
| defaultformat                 | string   | F topath          |          |
| directrun                     | function | method            | number   |
| edefsxsy                      | function | mptopdf           | table    |
| escaped                       | function | F convertmpstopdf | 10210    |
| exectime                      | table    | N nofconverted    |          |
| filterclippath                | function | multipass         | boolean  |
| finder                        | function | n                 | number   |
| flush                         | function | optimize          | boolean  |
| flushers                      | table    | parse             | function |
| Tpdf                          |          | pdfliterals       | function |
| F comment                     |          | pluginactions     | function |
| F flushfigure                 |          | process           | function |
| F startfigure                 |          | processplugins    | function |
| F stopfigure                  |          | reducetogray      | boolean  |
| F textfigure                  |          | reporterror       | function |
| flushliteral                  | function | reset             | function |
| flushnormalpath               | function | resetlastlog      | function |
| flushreset                    | function | resetplugins      | function |
| format                        | function | resettextexts     | function |
| formatnumber                  | function | setoutercolor     | function |
| getclippath                   | function | settext           | function |
| gettext                       | function | showlog           | boolean  |
| graphic                       | function | tex               | table    |
| graphic_base_pass             | function | F get             |          |
| <pre>graphic_extra_pass</pre> | function | F reset           |          |
| intermediate                  | table    | F set             |          |
| T actions                     |          | texerrors         | boolean  |
| F makempy                     |          | textextsdata      | function |
| B needed                      |          | theclippath       | function |
| lastlog                       | string   | totable           | function |
| load                          | function | unload            | function |
|                               |          |                   |          |

## mime (extra lua)

| b64       | function   | qp      | function    |
|-----------|------------|---------|-------------|
| decode    | function   | qpwrp   | function    |
| decodet   | table      | stuff   | function    |
| F base64  |            | unb64   | function    |
| F quoted  | -printable | unqp    | function    |
| dot       | function   | wrap    | function    |
| encode    | function   | wrapt   | table       |
| encodet   | table      | F base6 | 4           |
| F base64  |            | F defau | lt          |
| F quoted  | -printable | F quote | d-printable |
| eol       | function   | F text  |             |
| normalize | function   | wrp     | function    |

#### mplib (extra tex)

fields function
finders table

F file

new function

pen\_info function
preprocessed function
version function

### noads (context)

| handlers   | table |
|------------|-------|
| F check    |       |
| F collapse |       |
| F families |       |
| F italics  |       |
| F relocate |       |
| F render   |       |
| F resize   |       |
| F respace  |       |
| F tags     |       |
| F unscript |       |

F variants

process function

processors table

T collapse

F mlist\_to\_hlist

T relocate

T render

T resize

T respace

T unscript

## node (basic tex)

| сору            | function | ligaturing                      | function |
|-----------------|----------|---------------------------------|----------|
| copy_list       | function | mlist_to_hlist                  | function |
| count           | function | new                             | function |
| current_attr    | function | next                            | function |
| dimensions      | function | prev                            | function |
| do_ligature_n   | function | protect_glyphs                  | function |
| family_font     | function | <pre>protrusion_skippable</pre> | function |
| fields          | function | remove                          | function |
| first_character | function | set_attribute                   | function |
| first_glyph     | function | slide                           | function |
| flush_list      | function | subtype                         | function |
| free            | function | tail                            | function |
| has_attribute   | function | traverse                        | function |
| has_field       | function | traverse_id                     | function |
| hpack           | function | type                            | function |
| id              | function | types                           | function |
| insert_after    | function | unprotect_glyphs                | function |
| insert_before   | function | unset_attribute                 | function |
| is_node         | function | usedlist                        | function |
| kerning         | function | vpack                           | function |
| last_node       | function | whatsits                        | function |
| length          | function | write                           | function |
|                 |          |                                 |          |

# nodes (context)

| after function F protectglyphs  aligned function F stripping  astable function F unprotectglyphs  before function has_attribute function  builders table idstostring function  F buildpage_filter ignorablefields data table  F vpack_filter injections table  codes data table F handler  concat function F installnewkern  count function F setcursive  delete function F setwern  destinations table F setmark  N attribute F setpair  T done installattributehandler function  F handler  T stack data table is_mirrored data table  dimensionfields data table is_rotated data table  dir_is_pop data table  kerncodes data table   |
|--|
| astable function Funprotectglyphs before function has_attribute function builders table idstostring function  F buildpage_filter F vpack_filter injections table  codes data table F handler  concat function F installnewkern  count function F setcursive  delete function F setkern  destinations table F setmark  N attribute F setpair  T done installattributehandler function F handler F handler T stack is_mirrored data table  dimensionfields data table  is_rotated  |
| beforefunctionhas_attributefunctionbuilderstableidstostringfunctionF buildpage_filterignorablefieldsdata tableF vpack_filterinjectionstablecodesdata tableF handlerconcatfunctionF installnewkerncountfunctionF setcursivedeletefunctionF setkerndestinationstableF setmarkN attributeF setpairfunctionT doneinstallattributehandlerfunctionF handleris_display_mathfunctionT stackis_mirroreddata tabledimensionfieldsdata tableis_rotated  |
| builders table idstostring function  F buildpage_filter F vpack_filter  codes  data table  f handler  count  f unction  f unction  F setcursive  delete  f unction  F setkern  destinations  N attribute  T done F handler  T stack  data table  idstostring  function  F handler  is_display_math function  f unction  is_mirrored  data table  data table  data table  function  is_rotated  |
| F buildpage_filter F vpack_filter  codes  data table F handler  concat  function F installnewkern  count function F setcursive  delete function F setkern  destinations N attribute T done F handler T stack  data table is_rotated  ignorablefields data table ignorablefields data table ignorablefields data table  ignorablefields data table  ignorablefields data table  ignorablefields data table  data table  data table  data table  |
| F vpack_filter  codes  data table  F handler  concat  function  function  F setcursive  delete  function  F setkern  destinations  N attribute  T done  F handler  T stack  data table  is_mirrored  data table  is_rotated  table  table  table  f handler  is_loss play_math  function  data table  data table   |
| codes  concat function functio |
| concat function F installnewkern  count function F setcursive  delete function F setkern  destinations table F setmark  N attribute F setpair  T done installattributehandler function  F handler is_display_math function  T stack is_mirrored data table  dimensionfields data table is_rotated  |
| count function F setcursive  delete function F setkern  destinations table F setmark  N attribute F setpair  T done installattributehandler function F handler T stack is_mirrored data table  dimensionfields data table is_rotated data table  |
| delete     function     F setkern       destinations     table     F setmark       N attribute     F setpair       T done     installattributehandler     function       F handler     is_display_math     function       T stack     is_mirrored     data table       dimensionfields     data table     is_rotated     data table  |
| destinations     table     F setmark       N attribute     F setpair       T done     installattributehandler     function       F handler     is_display_math     function       T stack     is_mirrored     data table       dimensionfields     data table     is_rotated     data table  |
| N attribute T done Installattributehandler F handler T stack Is_mirrored  data table  dimensionfields  F setpair function function data table  is_mirrored  data table   |
| T done installattributehandler function F handler is_display_math function T stack is_mirrored data table dimensionfields data table is_rotated data table   |
| F handler is_display_math function T stack is_mirrored data table dimensionfields data table is_rotated data table   |
| T stack is_mirrored data table dimensionfields data table is_rotated data table  |
| dimensionfields data table is_rotated data table   |
|  |
|  |
| dir negation data table leftmarginwidth function   |
| fasthpack function lines table   |
| fields function T boxed  |
| fillcodes data table F register  |
| firstcharacter function F setup  |
| firstcharinbox function F stage_one  |
| firstglyph function F stage_two  |
| getattribute function F stage_zero   |
| gluecodes data table D data  |
| glyphcodes data table F finalize   |
| <pre>glyphdir_is_equal</pre>   |
| <pre>glyphdir_is_opposite data table N scratchbox</pre>  |
| <pre>glyphdir_is_orthogonal data table link function</pre>   |
| <pre>handlers table list function</pre>  |
| F accessibility listablefields data table  |
| F backgrounds listcodes data table   |
| F characters listtoutf function  |
| F checkforleaks load function  |
| F checkglyphs locate function  |
| F cleanuppage mathcodes data table   |
| F export noadcodes data table  |
| F finalize <b>nodecodes</b> data table   |
| F migrate packlist function  |

| pardir_is_equal     | data table | F userstring              |          |
|---------------------|------------|---------------------------|----------|
| pardir_is_opposite  | data table | F userstring F usertokens |          |
| pardir_is_parallel  | data table | F vlist                   |          |
| partextdir_is_equal | data table | F zeroglue                |          |
| penaltycodes        | data table | print                     | function |
| pool                | table      | processors                | table    |
| F baselineskip      | tabte      | B enabled                 | cabic    |
| F cleanup           |            | F hpack_filter            |          |
| F disc              |            | F post_linebreak_filter   |          |
| F fontkern          |            | F pre_linebreak_filter    |          |
| F glue              |            | F tracer                  |          |
| F gluespec          |            | processwords              | function |
| F glyph             |            | reference                 | function |
| F hlist             |            | references                | table    |
| F kern              |            | N attribute               |          |
| F latelua           |            | T done                    |          |
| F leftmarginkern    |            | F handler                 |          |
| F leftskip          |            | T stack                   |          |
| F lineskip          |            | remove                    | function |
| F noad              |            | repackhlist               | function |
| F pdfannotation     |            | replace                   | function |
| F pdfdestination    |            | report                    | function |
| F pdfdirect         |            | rightmarginwidth          | function |
| F pdfliteral        |            | rules                     | table    |
| F pdfrestore        |            | D data                    |          |
| F pdfsave           |            | F define                  |          |
| F pdfsetmatrix      |            | F enable                  |          |
| F penalty           |            | F handler                 |          |
| F register          |            | save                      | function |
| F rightmarginkern   |            | serialize                 | function |
| F rightskip         |            | serializebox              | function |
| F rule              |            | setattribute              | function |
| F shrink            |            | setattributes             | function |
| F special           |            | setunsetattributes        | function |
| F stretch           |            | shifts                    | table    |
| F temp              |            | D data                    |          |
| F textdir           |            | F define                  |          |
| F usage             |            | F enable                  |          |
| T userids           |            | F handler                 |          |
| N margins.inline    |            | show                      | function |
| N splitters.one     |            | showboxes<br>             | function |
| N splitters.two     |            | showcodes                 | function |
| F userlist          |            | showlist                  | function |

F usernumber

showsimplelist function

| skipcodes           | data table | T colors         |            |
|---------------------|------------|------------------|------------|
| somepenalty         | function   | F reset          |            |
| somespace           | function   | F set            |            |
| stripping           | table      | F setlist        |            |
| T glyphs            |            | F fontchar       |            |
| F set               |            | T frequencies    |            |
| striprange          | function   | F register       |            |
| tasks               | table      | F start          |            |
| F actions           |            | T steppers       |            |
| F appendaction      |            | F check          |            |
| F disableaction     |            | F codes          |            |
| F disablegroup      |            | F features       |            |
| F enableaction      |            | F glyphs         |            |
| F enablegroup       |            | F message        |            |
| F freeze            |            | F messages       |            |
| F freezegroup       |            | F nofsteps       |            |
| F new               |            | F register       |            |
| F prependaction     |            | F reset          |            |
| F removeaction      |            | F start          |            |
| F restart           |            | F stop           |            |
| F showactions       |            | F stop           |            |
| F table             |            | T transparencies |            |
| textdir_is_equal    | data table | F reset          |            |
| textdir_is_is       | data table | F set            |            |
| textdir_is_opposite | data table | F setlist        |            |
| textdir_is_parallel | data table | unsetattribute   | function   |
| tonodes             | function   | unsetattributes  | function   |
| tosequence          | function   | visualizebox     | function   |
| totable             | function   | visualizers      | table      |
| toutf               | function   | F box            |            |
| tracers             | table      | F handler        |            |
| T characters        |            | F setfont        |            |
| F collect           |            | F setlayer       |            |
| F equal             |            | F setvisual      |            |
| F indices           |            | whatcodes        | data table |
| F start             |            | whatsitcodes     | data table |

F string

F unicodes

writable\_spec

function

### number (context)

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

### os (basic lua)

| getenv       | function            | remove    | function            |
|--------------|---------------------|-----------|---------------------|
| setenv       | function            | rename    | function            |
| binsuffix    | string              | resolvers | table               |
| binsuffixes  | table               | resultof  | function            |
| clock        | function            | runtime   | function            |
| converttime  | function            | selfdir   | string              |
| date         | function            | setenv    | overloaded function |
| difftime     | function            | setlocale | overloaded function |
| env          | data table          | sleep     | function            |
| exec         | overloaded function | spawn     | overloaded function |
| execute      | overloaded function | time      | function            |
| exit         | function            | times     | function            |
| fulltime     | function            | timezone  | function            |
| getenv       | overloaded function | tmpdir    | function            |
| gettimeofday | function            | tmpname   | function            |
| launch       | function            | type      | string              |

function

function
function

function

# package (basic lua)

| clibpaths     | function | loaded  | table    |
|---------------|----------|---------|----------|
| config        | string   | loaders | table    |
| cpath         | string   | loadlib | function |
| extraclibpath | function | path    | string   |
| extralibpath  | function | preload | table    |
| libpaths      | function | seeall  | function |

### pagebuilders (context)

#### mixedcolumns table

F cleanup

F finalize

F getlist

F getrest

F getsplit

F setsplit

# pdf (basic tex)

| immediateobj   | function |
|----------------|----------|
| mapfile        | function |
| mapline        | function |
| maxobjnum      | function |
| obj            | function |
| objtype        | function |
| pageattributes | string   |
| pageref        | function |

| pageresources   | string   |
|-----------------|----------|
| pagesattributes | string   |
| pdfmapfile      | function |
| pdfmapline      | function |
| print           | function |
| refobj          | function |
| registerannot   | function |
| reserveobi      | function |

# physics (context)

units table

D tables

### profiler (extra lua)

# regimes (context)

| cleanup | function | process   | function |
|---------|----------|-----------|----------|
| disable | function | push      | function |
| enable  | function | toregime  | function |
| pop     | function | translate | function |

#### resolvers (context)

find\_files

findbinfile

findctxfile

finders

| allprefixes                  | function            | findfile                |
|------------------------------|---------------------|-------------------------|
| appendhash                   | function            | findfiles               |
| automount                    | function            | findgivenfile           |
| automounted                  | table               | findgivenfiles          |
| booleanvariable              | function            | findpath                |
| cacheversion                 | string              | findtexfile             |
| checkedvariable              | function            | findwildcardfile        |
| cleanpath                    | function            | findwildcardfiles       |
| cleanpathlist                | function            | formatofsuffix          |
| concatinators                | data table          | formatofvariable        |
| configbanner                 | string              | formats                 |
| criticalvars                 | data table          | generators              |
| dangerous                    | data table          | getenv                  |
| datastate                    | function            | getownpath              |
| defaultsuffixes              | table               | getreadfilename         |
| dowithfilesandreport         | function            | hashers                 |
| dowithfilesintree            | function            | homedir                 |
| dowithpath                   | function            | inputstack              |
| dowithvariable               | function            | installinputfilehandler |
| env                          | function            | installinputlinehandler |
| executers                    | table               | instance                |
| F check                      |                     | D data                  |
| F exec                       |                     | B diskcache             |
| F execute                    |                     | D environment           |
| F finalize                   |                     | D expansions            |
| F popen                      |                     | D fakepaths             |
| F register                   |                     | D files                 |
| F spawn                      |                     | B force_suffixes        |
| expandbraces                 | function            | D found                 |
| expandedpathfromlist         | function            | D foundintrees          |
| expandedpathlist             | function            | D hashed                |
| expandedpathlistfromvariable | function            | D hashes                |
| expandpath                   | function            | D lists                 |
| expandpathfromvariable       | function            | B loaderror             |
| expansion                    | function            | D order                 |
| extendtexmfvariable          | function            | B remember              |
| find_file                    | <del>function</del> | B renewcache            |
| <del>-</del>                 |                     |                         |

**function** 

function

function

data table

function data table data table function function function data table string table function function table

B renewtree

B savelists

D specification

D setups

| jobs         table         registermethod         function           F currentcomponent         registerzipfile         function           F currentproduct         renew         function           F currentproduct         repath         function           F currentproduct         reset         function           F pustacomponent         reset         function           F productcomponent         resetextrapath         function           F usefile         resetextrapath         function           Joadia         function         scanfiles         function           Joadia         function         F mose         function         function           Loadtrafile         function         F strip         function         function <t< th=""><th>D variables</th><th></th><th>registerintrees</th><th>function</th></t<>  | D variables          |            | registerintrees        | function   |
|--|----------------------|------------|------------------------|------------|
| F currentproduct   | jobs                 | table      | registermethod         | function   |
| F currentproject F currentproject F currentproject F currentproject F justacomponent F justacomponent F justacomponent F productcomponent F productoom G f unction G savers G data table I oadta G function G scandata G function I cleaners G function I cleaners G function F mode G cleaners G function F mode G cleaners G data table G f cleaners G cleaners G function F strip G f fetchable G luacnfname G string F f fetchable G luacnfname G string F f fetchable G luacnfname G string F f motall G macros G table G setenv G function F convertfile F decodecomment F decodecomment F encodecomment F encodecomment F processenk | F currentcomponent   |            | registerzipfile        | function   |
| F currentproject F justacomponent D processors D processors F productcomponent F usefile F unction F unction F unction I uncti | F currentenvironment |            |                        | data table |
| F justacomponent D processors F productcomponent F pusefile F punction I punction F pusefile F decodecomment F pusefile F punction F punc | F currentproduct     |            | renew                  | function   |
| p processors   | F currentproject     |            | repath                 | function   |
| F productcomponent F usefile F usefile F usefile F usefile F usefile F unction  joinpath f unction savers data table load function scandata function loadbinfile function scanfiles function scanfiles function loaders data table schemes table loaddualib function F usefile function F usefile loadtwafile function F usefile function function F usefile function functio | F justacomponent     |            | reset                  | function   |
| Fusefile function savers data table load function scandata function scandata function loadbinfile function scandata function loadbinfile function scanfiles function loaders data table schemes table loadcers data table schemes table loadcexfile function Finds loadtexfile function Finds locateformat function Finds locateformat function Fistip locators data table Ficteanname luacnfname string Fifetchstring luacnfspec string Fifetchstring luacnfstate string Finstall macros table setenv function Findscomment findscomment findscomment showpath function Findscomment findscomment findscomment showpath function Firenodecomment findscomment fin | D processors         |            | resetextrapath         | function   |
| joinpath function savers data table load function scandata function loadbinfile function scanfiles function scanfiles function scanfiles function table loaders data table schemes table loadcualib function T cleaners loadcualib function F mose locateformat function F mose locateformat function F strip locators data table F cleanname luacnfname string F fetchstring luacnfspec string F fetchstring luacnfstate string F install luacnfstate string F install setting F enablecomment function setting F enablecomment function setting function from ferencessed function from simplescanfiles function from simplescanfiles function from splitconfigurations function from splitconfigurations function from splitconfigurations function from suffixes data table methodhandler function suffixmap data table methodhandler function suffixmap data table newinstance function uncepandedpath function openers data table toppath function openers data table updaterelations function unexpandedpathlist function ownpath string unresolve function function registerextrapath function updaterelations function registerextrapath function updaterescript function registerfile function updatescript function function registerfile function uncepandedpath function registerfile function updatedpath function function function reg | F productcomponent   |            | resetresolve           | function   |
| load function scandata function loadbinfile function scanfiles function loaders data table schemes table loadlualib function F cleaners loadtexfile function F none locateformat function F strip locators data table F cleanname string F fetchstring luacnfispec string F fetchstring luacnfispec luacnfiste string F install luacnfispec luacnfiste string F fetchstring function F convertfile setings function f fencedecomment f showpath function f fencedecomment f showpath function f processmk splitexpansions function f processmk splitexpansions function f processmk splitmethod function f processmk splitmethod function maxeadlevel number suffixes data table methodhandler function suffixmap data table methodhandler function unexpandedpath function openfile function unexpandedpath function openfile function unexpandedpath function openfixes data table updaterelations function function openfixes data table updaterelations function prepixers data table updaterelations function registerfile function unexpandedpath function openfixes data table updaterelations function prepixers function updatescript function registerfile function usezipfile function function function registerfile function usezipfile function function function function usezipfile function function function function function function usezipfile function fun | F usefile            |            | resolve                | function   |
| loadbinfile function scanfiles function loaders data table schemes table loadlualib function T cleaners loadtwile function F md5 loadtexfile function F md5 loadtexfile function F md5 loadtame function F md5 locateformat function F strip locators data table F cleanname luacnfname string F fetchstring luacnfspec string F fetchtable luacnfstate string F install macros table setenv function F convertfile seting F install set function F encodecomment S simplescanfiles function F proprocessed Splitconfigurationpath function F processmk Splitconfigurationpath function F processmk Splitconfigurationpath function f processmk splitconfigurationpath function suffixes data table methodhandler function suffixes data table methodhandler function suffixes data table methodhandler function unexpandedpath function openErs data table toppath function unexpandedpath function openErs data table updaterelations function function prefixes data table updaterelations function prependhash function usezipfile function usezipfile function registerFile function usezipfile function function function registerFile function usezipfile function function function function function registerFile function usezipfile function func | joinpath             | function   | savers                 | data table |
| loaders data table schemes table loadlualib function T cleaners loadtexfile function F mdS loadtime function F none locateformat function F strip locators data table F cleanname luacnfname string F fetchstring luacnfspec string F fetchstring luacnfstate string F install macros table setenv function F convertile setinate F canodecomment showpath function F enablecomment showpath function F preprocessed splitconfigurationpath function F processmk splitconfigurationpath function F processmk splitconfigurationpath function F processmk splitconfigurationpath function F wersion splitpath function maxreadlevel number suffixes data table methodhandler function suffixmap data table methodhandler function suffixmap data table methodhandler function unexpandedpath function openers data table toppath function openers data table updaterelations function prefixes data table updaterelations function prefixes data table updaterelations function prefixes data table updaterelations function registerfile function usezipfile function registerextrapath function usezipfile function registerfile function usezipfile function registerextrapath function usezipfile function registerextrapath function usezipfile function   | load                 | function   | scandata               | function   |
| loadlualib function T cleaners loadtexfile function F md5 loadtime function F none locateformat function F strip locators data table F cleanname luacnfname string F fetchstring luacnfspec string F fetchstring luacnfstate string F install macros table setenv function F convertfile setinstance function F decodecomment showpath function F enablecomment showpath function F processmk splitconfigurationpath function F processmk splitconfigurationpath function F processmk splitable splitable F version suffixes data table methodhandler function suffixes data table mewinstance function suffixmap data table newinstance function suffixmap data table newinstance function suffixes function openers data table toppath function openers data table toppath function openers data table uppath function openetxfile function unexpandedpath function openetxfile function unexpandedpath function ownpath string unresolve function registerextrapath function usezipfile function  | loadbinfile          | function   | scanfiles              | function   |
| loadtexfile function F md5 loadtime function F none locateformat function F none locators data table F cleanname luacnfname string F fetchstring luacnfspec string F fetchstable luacnfstate string F install macros table setenv function F convertfile setinates function F enablecomment showpath function F enablecomment simplescanfiles function F preprocessed splitexpansions function F preprocessmk splitexpansions function F processmk splitexpansions function F processmk splitexpansions function F processmki splitexpansions function F processmki splitexpansions function F version splitexpansions data table methodhandler function suffixmap data table methodhandler function suffixmap function openbinfile function texdatablob function openers data table toppath function openers data table toppath function openetxfile function unexpandedpath function openetxfile function unexpandedpath function openetxfile function unexpandedpath function openetixes data table updaterelations function openetixes data table updaterelations function openetixes function unexpandedpath function   | loaders              | data table | schemes                | table      |
| loadtime function F none locateformat function F strip locators data table F cleanname luacnfspec string F fetchstring luacnfstate string F fetchable luacnfstate string F install macros table setenv function F convertfile seting F install  F convertfile seting function F enablecomment showpath function F enablecomment simplescanfiles function F preprocessed splitconfigurationpath function F precessmk splitexpansions function F processmk splitexpansions function F processmk splitaxpansions function F wersion splitpath function maxreadlevel number suffixes data table methodhandler function suffixmap data table methodhandler function suffixformat function openbinfile function texdatablob function openers data table toppath function openers data table toppath function openetxfile function unexpandedpath function openetxfile function unexpandedpath function ownpath string unresolve function openefixes data table updaterelations function openefixes data table updaterelations function openetxestriapath function usezipfile function openetstrile function usezipfile function openetstrile function usezipfile function openiterestrile function usezipfile function   | loadlualib           | function   | T cleaners             |            |
| locateformat locators data table F cleanname luacnfname string F fetchstring luacnfspec string F fetchtable luacnfstate string F install macros table F convertfile F convertfile F encodecomment F enablecomment F encodecomment F preprocessed F preprocessed F processmkvi F processmkvi F version F version F version F version  maxreadlevel mathod mathodandler mathodandler methodhandler methodhandler f function genebinfile f function f function suffixes data table methodhandler f function suffixes data table methodhandler f function suffixes data table methodhandler f function maxreadlevel methodhandler f function mexpandedpath f function openbinfile f function unexpandedpath f function openfite f function unexpandedpath f function openfite f function unexpandedpathlist f function openers data table updaterelations f function registerextrapath f function usezipfile f function registerextrapath f function validatedpath f function validatedpath f function   | loadtexfile          | function   | F md5                  |            |
| luacnfname string F fetchstring luacnfspec string F fetchstring F fetchtable string F fetchtable string F fetchtable string F fetchtable string F install function F convertfile setinstance function F decodecomment showpath function F enablecomment showpath function F proprocessed splitconfigurationpath function F processmk splitconfigurationpath function F processmk splitconfigurationpath function F processmk splitconfigurationpath function f version splitconfigurationpath function suffixes data table methodhandler function suffixes data table methodhandler function suffixes data table newinstance function suffixes function openbinfile function texdatablob function openers data table toppath function openers data table toppath function openetxfile function unexpandedpath function openetxfile function unexpandedpathlist function prefixes data table updaterelations function registerextrapath function usezipfile function registerextrapath function usezipfile function registerextrapath function usezipfile function registerextrapath function validatedpath function  | loadtime             | function   | F none                 |            |
| luacnfnamestringF fetchstringluacnfspecstringF fetchtablemacrostablesetenvfunctionF convertfilesetinstancefunctionF decodecommentsettracefunctionF enablecommentshowpathfunctionF perpocessedsplitconfigurationpathfunctionF preprocessedsplitexpansionsfunctionF processmkvsplitmethodfunctionF versionsplitmethodfunctionmaxreadlevelnumbersuffixesdata tablemethodhandlerfunctionsuffixapdata tablenewinstancefunctionsuffixofformatfunctionopenbinfilefunctiontexdatablobfunctionopenersdata tabletoppathfunctionopenfilefunctionunexpandedpathfunctionopentexfilefunctionunexpandedpathlistfunctionownpathstringunresolvefunctionprefixesdata tableupdaterelationsfunctionprependhashfunctionupdaterelationsfunctionregisterextrapathfunctionusezipfilefunctionregisteretfilefunctionvalidatedpathfunction  | locateformat         | function   | F strip                |            |
| luacnfspecstringF fetchtableluacnfstatestringF installmacrostablesetenvfunctionF convertfilesetinstancefunctionF decodecommentsettracefunctionF enablecommentshowpathfunctionF pencodecommentsimplescanfilesfunctionF preprocessedsplitconfigurationpathfunctionF processmksplitexpansionsfunctionF processmkvisplitmethodfunctionF versionsuffixesdata tablemethodhandlerfunctionsuffixmapdata tablenewinstancefunctionsuffixofformatfunctionopenbinfilefunctiontexdatablobfunctionopenersdata tabletoppathfunctionopenfilefunctionunexpandedpathfunctionopenfilefunctionunexpandedpathlistfunctionownpathstringunresolvefunctionprefixesdata tableupdaterelationsfunctionprependhashfunctionupdatescriptfunctionregisterextrapathfunctionusezipfilefunctionregisterextrapathfunctionvalidatedpathfunction  | locators             | data table | F cleanname            |            |
| luacnfstatestringF installmacrostablesetenvfunctionF convertfilesetinstancefunctionF decodecommentsettracefunctionF enablecommentshowpathfunctionF encodecommentsimplescanfilesfunctionF preprocessedsplitconfigurationpathfunctionF processmksplitexpansionsfunctionF processmkvisplitpathfunctionF versionnumbersuffixesdata tablemethodhandlerfunctionsuffixmapdata tablenewinstancefunctionsuffixofformatfunctionopenbinfilefunctiontexdatablobfunctionopenersdata tabletoppathfunctionopenfelefunctionunexpandedpathfunctionopentexfilefunctionunexpandedpathlistfunctionownpathstringunresolvefunctionprefixesdata tableupdaterelationsfunctionprependhashfunctionupdatescriptfunctionregisterextrapathfunctionusezipfilefunctionregisteretfilefunctionvalidatedpathfunction   | luacnfname           | string     | F fetchstring          |            |
| macros table setenv function F convertfile setinstance function F decodecomment showpath function F enablecomment simplescanfiles function F preprocessed splitconfigurationpath function F processmk splitconfigurationpath function F processmk splitcypansions function F processmkvi splitpath function F version splitpath function maxreadlevel number suffixes data table methodhandler function suffixmap data table methodhandler function suffixofformat function openbinfile function texdatablob function openers data table toppath function openers data table toppath function openetxfile function unexpandedpath function openetxfile function unexpandedpathlist function openetxfile function unexpandedpathlist function openetxfile function unexpandedpathlist function openetxfile data table updaterelations function prefixes data table updaterelations function openetxfile function usezipfile function openetxfile function usezipfile function openetxfile function usezipfile function  | luacnfspec           | string     | F fetchtable           |            |
| F convertfile F decodecomment F decodecomment F enablecomment F encodecomment F encodecomment F preprocessed F processmk F processmk F processmk F processmkvi F version F version F unmber  maxreadlevel methodhandler newinstance openbinfile openers data table openers data table openers data table openers openers openers data table openers openers openers data table oppath openers openers openers data table oppath openers openers openers openers data table oppath openers openers openers openers data table oppath openers o | luacnfstate          | string     | F install              |            |
| F decodecomment F enablecomment F encodecomment F encodecomment F preprocessed F processmk F processmk F processmkvi F version maxreadlevel methodhandler newinstance Openbinfile Openbinf | macros               | table      | setenv                 | function   |
| F enablecomment F encodecomment F encodecomment F preprocessed F preprocessed F processmk F processmk F processmkvi F version F version  maxreadlevel methodhandler newinstance openbinfile function openers data table function texdatablob openers data table toppath function openers openers data table upeners ownpath function o | F convertfile        |            | setinstance            | function   |
| 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 version F unction F version F unction F  | F decodecomment      |            | settrace               | function   |
| F preprocessed F processmk F processmkvi F version F version  maxreadlevel methodhandler newinstance openbinfile openers opene | F enablecomment      |            | showpath               | function   |
| F processmk F processmkvi F processmkvi F version F version  maxreadlevel methodhandler function suffixes data table methodhandler function suffixmap data table newinstance function suffixofformat function openbinfile function texdatablob function openers data table toppath function openfile function unexpandedpath function opentexfile function unexpandedpathlist function ownpath string unresolve function prefixes data table updaterelations function registerextrapath function validatedpath function function function function function registerfile function validatedpath function function  | F encodecomment      |            | simplescanfiles        | function   |
| F processmkvi F version F version maxreadlevel number suffixes data table methodhandler function suffixmap data table newinstance function suffixofformat function openbinfile function texdatablob function openers data table toppath function openfile function unexpandedpath function opentexfile function unexpandedpathlist function ownpath string unresolve function prefixes data table updaterelations function prependhash function updatescript function registerextrapath function validatedpath function  | F preprocessed       |            | splitconfigurationpath | function   |
| registersion splitpath function maxreadlevel number suffixes data table methodhandler function suffixmap data table newinstance function suffixofformat function openbinfile function texdatablob function openers data table toppath function openers function unexpandedpath function opentexfile function unexpandedpathlist function ownpath string unresolve function prefixes data table updaterelations function prependhash function usezipfile function registerextrapath function validatedpath function   | F processmk          |            | splitexpansions        | function   |
| maxreadlevelnumbersuffixesdata tablemethodhandlerfunctionsuffixmapdata tablenewinstancefunctionsuffixofformatfunctionopenbinfilefunctiontexdatablobfunctionopenersdata tabletoppathfunctionopenfilefunctionunexpandedpathfunctionopentexfilefunctionunexpandedpathlistfunctionownpathstringunresolvefunctionprefixesdata tableupdaterelationsfunctionprependhashfunctionupdatescriptfunctionregisterextrapathfunctionusezipfilefunctionregisterfilefunctionvalidatedpathfunction   | F processmkvi        |            | splitmethod            | function   |
| methodhandlerfunctionsuffixmapdata tablenewinstancefunctionsuffixofformatfunctionopenbinfilefunctiontexdatablobfunctionopenersdata tabletoppathfunctionopenfilefunctionunexpandedpathfunctionopentexfilefunctionunexpandedpathlistfunctionownpathstringunresolvefunctionprefixesdata tableupdaterelationsfunctionprependhashfunctionupdatescriptfunctionregisterextrapathfunctionusezipfilefunctionregisterfilefunctionvalidatedpathfunction   | F version            |            | splitpath              | function   |
| newinstancefunctionsuffixofformatfunctionopenbinfilefunctiontexdatablobfunctionopenersdata tabletoppathfunctionopenfilefunctionunexpandedpathfunctionopentexfilefunctionunexpandedpathlistfunctionownpathstringunresolvefunctionprefixesdata tableupdaterelationsfunctionprependhashfunctionupdatescriptfunctionregisterextrapathfunctionusezipfilefunctionregisterfilefunctionvalidatedpathfunction   | maxreadlevel         | number     | suffixes               | data table |
| openbinfilefunctiontexdatablobfunctionopenersdata tabletoppathfunctionopenfilefunctionunexpandedpathfunctionopentexfilefunctionunexpandedpathlistfunctionownpathstringunresolvefunctionprefixesdata tableupdaterelationsfunctionprependhashfunctionupdatescriptfunctionregisterextrapathfunctionusezipfilefunctionregisterfilefunctionvalidatedpathfunction  | methodhandler        | function   | suffixmap              | data table |
| openersdata tabletoppathfunctionopenfilefunctionunexpandedpathfunctionopentexfilefunctionunexpandedpathlistfunctionownpathstringunresolvefunctionprefixesdata tableupdaterelationsfunctionprependhashfunctionupdatescriptfunctionregisterextrapathfunctionusezipfilefunctionregisterfilefunctionvalidatedpathfunction  | newinstance          | function   | suffixofformat         | function   |
| openfilefunctionunexpandedpathfunctionopentexfilefunctionunexpandedpathlistfunctionownpathstringunresolvefunctionprefixesdata tableupdaterelationsfunctionprependhashfunctionupdatescriptfunctionregisterextrapathfunctionusezipfilefunctionregisterfilefunctionvalidatedpathfunction  | openbinfile          | function   | texdatablob            | function   |
| opentexfilefunctionunexpandedpathlistfunctionownpathstringunresolvefunctionprefixesdata tableupdaterelationsfunctionprependhashfunctionupdatescriptfunctionregisterextrapathfunctionusezipfilefunctionregisterfilefunctionvalidatedpathfunction  | openers              | data table | toppath                | function   |
| ownpathstringunresolvefunctionprefixesdata tableupdaterelationsfunctionprependhashfunctionupdatescriptfunctionregisterextrapathfunctionusezipfilefunctionregisterfilefunctionvalidatedpathfunction   | openfile             | function   | unexpandedpath         | function   |
| prefixesdata tableupdaterelationsfunctionprependhashfunctionupdatescriptfunctionregisterextrapathfunctionusezipfilefunctionregisterfilefunctionvalidatedpathfunction   | opentexfile          | function   | unexpandedpathlist     | function   |
| prependhash function updatescript function registerextrapath function usezipfile function registerfile function validatedpath function   | ownpath              | string     | unresolve              | function   |
| registerextrapathfunctionusezipfilefunctionregisterfilefunctionvalidatedpathfunction   | prefixes             | data table | updaterelations        | function   |
| registerfile function validatedpath function   | prependhash          | function   | updatescript           | function   |
| · ·  | registerextrapath    | function   | usezipfile             | function   |
| registerfilehash function variable function  | registerfile         | function   | validatedpath          | function   |
|  | registerfilehash     | function   | variable               | function   |

variableofformat variableofformatorsuffix

function function wildcardpattern

function

#### scripts (context)

categorytonumber data table colors data table defaults table

N inter\_char\_half\_shrink\_factor

N inter\_char\_half\_stretch\_factor

N inter char hangul penalty

N inter\_char\_quarter\_shrink\_factor

N inter\_char\_quarter\_stretch\_factor

N inter\_char\_shrink\_factor N inter\_char\_stretch\_factor handlers data table hash table installdataset function installmethod function numbertocategory data table numbertodataset data table preprocess function function reset function

set

### set (context)

contains function
create function
tolist function

tonumber function
totable function

#### socket (extra lua)

F http-chunked

```
BLOCKSIZE number
                                                          F keep-open
DEBUG
            boolean
                                                      skip
                                                                   function
bind
            function
                                                      sleep
                                                                   function
            function
choose
                                                      smtp
                                                                   table
connect
            function
                                                          S DOMATN
dns
            table
                                                          N PORT
                                                          S SERVER
   F gethostname
   F tohostname
                                                          N TIMEOUT
   F toip
                                                          S ZONE
ftp
            table
                                                          F message
   S PASSWORD
                                                          F open
   N PORT
                                                          F send
                                                                   function
   N TIMEOUT
                                                      source
                                                                   table
   S IISER
                                                      sourcet
   F command
                                                          F by-length
                                                          F default
   F get
   F open
                                                          F http-chunked
   F put
                                                          F until-closed
gettime
            function
                                                                   function
                                                      tcp
http
            table
                                                      tp
                                                                   table
   N PORT
                                                          N TIMEOUT
   N TIMEOUT
                                                          F connect
                                                                   function
   S USERAGENT
                                                      try
                                                                   function
                                                      udp
   F open
                                                      url
                                                                   table
   F request
newtry
            function
                                                          F absolute
protect
            function
                                                          F build
select
            function
                                                          F build_path
sink
            function
                                                          F escape
sinkt
            table
                                                          F parse
   F close-when-done
                                                          F parse path
   F default
                                                          F unescape
```

#### sorters (context)

comparers table

F basic

constants table

S defaultdigits

S defaultlanguage

S defaultmethod

N digitsmaximum

N digitsoffset

N ignoredoffset

N replacementoffset

definitions data table
firstofsplit function
setlanguage function

sort function splitters table

F utf

strip function
tracers data table
update function

## statistics (context)

| checkfmtstatus | function |
|----------------|----------|
| elapsedindeed  | function |
| elapsedseconds | function |
| elapsedtime    | function |
| enable         | boolean  |
| formatruntime  | function |
| hastiming      | function |
| memused        | function |
| register       | function |
| reportstorage  | function |

| resettiming   | function |
|---------------|----------|
| runtime       | function |
| savefmtstatus | function |
| show          | function |
| showjobstat   | function |
| starttiming   | function |
| stoptiming    | function |
| threshold     | number   |
| timed         | function |
|               |          |

## status (basic tex)

list function

#### storage (context)

allocate function
data table
evaluators table
mark function
marked function
max number
min number

nofmodules number
noftables number
register function
shared data table
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)

| booleanstring    | function |
|------------------|----------|
| byte             | function |
| <b>bytepairs</b> | function |
| bytes            | function |
| char             | function |
| characterpairs   | function |
| characters       | function |
| checkedsplit     | function |
| collapsespaces   | function |
| count            | function |
| dump             | function |
| escapedpattern   | function |
| explode          | function |
| find             | function |
| format           | function |
| gfind            | function |
| gmatch           | function |
| gsub             | function |
| is_boolean       | function |
| is_empty         | function |
| itself           | function |
| len              | function |
| limit            | function |
| lower            | function |
| match            | function |
| quote            | function |
|                  |          |

| quoted        | function |
|---------------|----------|
| rep           | function |
| reverse       | function |
| split         | function |
| splitlines    | function |
| splitup       | function |
| strip         | function |
| sub           | function |
| tformat       | function |
| toboolean     | function |
| tocontext     | function |
| todimen       | function |
| topattern     | function |
| totable       | function |
| toutf         | function |
| unquote       | function |
| unquoted      | function |
| upper         | function |
| utfcharacters | function |
| utflength     | function |
| utfsplit      | function |
| utfsplitlines | function |
| utfvalues     | function |
| valid         | function |
| validutf      | function |

## structures (context)

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

| F setup           |       | F define                   |
|-------------------|-------|----------------------------|
| D stored          |       | F exists                   |
| itemgroups        | table | F fetch                    |
| F maxwidth        |       | F fetchallmarks            |
| F nofitems        |       | F fetched                  |
| F register        |       | F fetchonemark             |
| lists             | table | F fetchtwomarks            |
| F addto           |       | F get                      |
| F analyze         |       | F number                   |
| D cached          |       | F relate                   |
| D collected       |       | F reset                    |
| F discard         |       | F set                      |
| F enhance         |       | F show                     |
| T enhancers       |       | F synchronize              |
| F filter          |       | F title                    |
| F filtercollected |       | T tracers                  |
| F formulanumber   |       | F showtable                |
| F hasnumberdata   |       | <b>notes</b> table         |
| F haspagedata     |       | F checkpagechange          |
| F hastitledata    |       | F define                   |
| D internals       |       | F doifonsamepageasprevious |
| F iscached        |       | F get                      |
| F label           |       | F getdeltapage             |
| F location        |       | F getn                     |
| F number          |       | F getnumberpage            |
| D ordered         |       | F getstate                 |
| F page            |       | F getsymbolpage            |
| F popnesting      |       | F hascontent               |
| F prefix          |       | F internal                 |
| F prefixednumber  |       | F internalid               |
| F prefixedpage    |       | F listindex                |
| F process         |       | F ordered                  |
| D pushed          |       | F postpone                 |
| F pushnesting     |       | F resetpostponed           |
| F realpage        |       | F restore                  |
| T result          |       | F save                     |
| F sectionnumber   |       | F setstate                 |
| F size            |       | F setsymbolpage            |
| F title           |       | D states                   |
| D tobesaved       |       | F store                    |
| F userdata        |       | <b>pages</b> table         |
| F uservalue       |       | F analyze                  |
| marks             | table | D collected                |
| D data            |       | F is_odd                   |
|                   |       |                            |

F save D pages D tobesaved U prefixsplitter references table D productdata F analyze T programs F checkedfile T data F checkedfileorurl F define F checkedprogram F aet F checkedrealpage F realpageofpage F checkedurl U referencesplitter D collected D referred U componentsplitter F referredpage F currentmetadata F registerfinalizer F currentorder F registerinitializer D currentset F registerpage F define F reportproblems D defined F reset D derived T resolvers F enableinteraction F reference F section F enhance D executers D runners F expandcurrent F set F setandgetattribute F export T files F setcomponent T data F setinnermethod F define F setinternalreference F setnextinternal F get F filter F setnextorder F filterdefault D specials D filters F splitcomponent F from F splitprefix F get F splitreference F getcurrentmetadata T testrunners Finner F getcurrentprefixspec F special F getinnermethod F getinternalreference F special operation D handlers F special operation with arguments F identify T testspecials F import F deltapage F inject Γi F injectcurrentset F internal D internals F page F load F realpage F loadpresets F section

F mark

F number

| Fuserpage                 |       | n    | lovolman                 |       |
|---------------------------|-------|------|--------------------------|-------|
| F userpage D tobereferred |       |      | levelmap                 |       |
| D toberered D tobesaved   |       |      | load                     |       |
| T urls                    |       |      |                          |       |
| T data                    |       |      | matchingtilldepth        |       |
| F define                  |       |      | numberatdepth<br>numbers |       |
|                           |       |      |                          |       |
| F get                     |       |      | popblock                 |       |
| F valid                   |       |      | prefixedconverted        |       |
| F whatfrom                | table |      | pushblock                |       |
| registers                 | table |      | register                 |       |
| F analyze                 |       |      | registered               |       |
| F analyzed                |       |      | reportstructure          |       |
| D collected               |       |      | save                     |       |
| F compare                 |       |      | set                      |       |
| F define                  |       |      | setblock                 |       |
| F enhance                 |       |      | setchecker               |       |
| F extend                  |       |      | setlevel                 |       |
| F filter                  |       |      | setnumber                |       |
| F filtercollected         |       |      | somelevel                |       |
| F finalize                |       |      | structuredata            |       |
| F flush                   |       |      | title                    |       |
| F prepare                 |       |      | tobesaved                |       |
| F process                 |       |      | typesetnumber            |       |
| F sort                    |       |      | userdata                 |       |
| F store                   |       |      | verbose                  |       |
| D tobesaved               |       | sets |                          | table |
| F unique                  |       | F    | define                   |       |
| F userdata                |       | F    | get                      |       |
| sections                  | table | F    | getall                   |       |
| F autodepth               |       |      | setlist                  |       |
| F cct                     |       | spec | ials                     | table |
| D collected               |       | D    | collected                |       |
| F current                 |       | F    | retrieve                 |       |
| F currentblock            |       | F    | store                    |       |
| F currentid               |       | D    | tobesaved                |       |
| F currentlevel            |       | syno | -                        | table |
| F depthnumber             |       | F    | analyzed                 |       |
| F finddata                |       | D    | collected                |       |
| F findnumber              |       | F    | compare                  |       |
| F fullnumber              |       | F    | define                   |       |
| F getcurrentlevel         |       | F    | filter                   |       |
| F getlevel                |       | F    | finalize                 |       |
| F getnumber               |       | F    | flush                    |       |
| F internalreference       |       | F    | meaning                  |       |

F registermetadata F prepare F process F restart F register F setattributehash F registerused F setcombination F sort F setdescription F synonym F setdescriptionsymbol D tobesaved F setfigure table tags F sethighlight T data F setitemgroup F detailedtag F setproperty F getid F setsorting F handler F setsynonym F settablecell D labels F last F settabulatecell F start F lastinchain T metadata F stop

D properties

F registerdata

## table (basic lua)

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

## tex (basic tex)

| attribute        | table      | lccode        | table      |
|------------------|------------|---------------|------------|
| badness          | function   | linebreak     | function   |
| box              | table      | lists         | table      |
| catcode          | table      | luacatcodes   | number     |
| conditionals     | data table | mathcode      | table      |
| constants        | data table | modes         | data table |
| count            | table      | nest          | table      |
| ctxcatcodes      | number     | nilcatcodes   | number     |
| definefont       | function   | notcatcodes   | number     |
| delcode          | table      | number        | function   |
| dimen            | table      | pdffontname   | function   |
| enableprimitives | function   | pdffontobjnum | function   |
| error            | function   | pdffontsize   | function   |
| extraprimitives  | function   | pdfpageref    | function   |
| finish           | function   | pdfxformname  | function   |
| fontidentifier   | function   | primitives    | function   |
| fontname         | function   | print         | function   |
| fprint           | function   | printlist     | function   |
| get              | function   | prtcatcodes   | number     |
| getattribute     | function   | romannumeral  | function   |
| getbox           | function   | round         | function   |
| getcatcode       | function   | run           | function   |
| getcount         | function   | scale         | function   |
| getdelcode       | function   | set           | function   |
| getdimen         | function   | setattribute  | function   |
| getlccode        | function   | setbox        | function   |
| getlist          | function   | setcatcode    | function   |
| getmath          | function   | setcount      | function   |
| getmathcode      | function   | setdelcode    | function   |
| getnest          | function   | setdimen      | function   |
| getsfcode        | function   | setfalse      | function   |
| getskip          | function   | setlccode     | function   |
| gettoks          | function   | setlist       | function   |
| getuccode        | function   | setmath       | function   |
| hashtokens       | function   | setmathcode   | function   |
| ifs              | data table | setnest       | function   |
| inicatcodes      | number     | setsfcode     | function   |
| iscount          | function   | setskip       | function   |
| isdimen          | function   | settoks       | function   |
| isskip           | function   | settrue       | function   |
| istoken          | function   | setuccode     | function   |

sfcode table shipout function skip table function sp sprint function systemmodes data table texcatcodes number toks table tpacatcodes number tpbcatcodes number

tprint function data table trackers txtcatcodes number function type uccode table uniformdeviate function uprint function vrbcatcodes number write function

# texconfig (basic tex)

| error_line      | number   |
|-----------------|----------|
| expand_depth    | number   |
| formatname      | string   |
| half_error_line | number   |
| hash_extra      | number   |
| init            | function |
| 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 |
| stack_size     | number |

## texio (basic tex)

write function

write\_nl function

## token (basic tex)

| command_id   | function |
|--------------|----------|
| command_name | function |
| create       | function |
| csname_id    | function |
| csname_name  | function |
| expand       | function |

| get_next                 | function |
|--------------------------|----------|
| <pre>is_activechar</pre> | function |
| <pre>is_expandable</pre> | function |
| <pre>is_protected</pre>  | function |
| lookup                   | function |

#### tokens (context)

bgroup table
collectors table

T data

F defaultwords

F dowithwords

F flush

F handle

F install

F register

T registered

T remapper

F convert

T data

F store

F show

T show\_methods

Fa

F b

Fc

F showtoken

F test

F trace

**egroup** table

**hbox** table

letter function
letters function

letters function
other function

other funct:
vbox table

vtop table

#### tracers (context)

count function
cs function
dimen function
knownlist function
lists table

T context
T internals
T scratch

name function
primitive function
printerror function
showlines function
strings table

S undefined

toks function
type function

## trackers (context)

| data           | data table | name     | string              |
|----------------|------------|----------|---------------------|
| disable        | function   | register | function            |
| dumphashtofile | function   | report   | $ \hbox{function} $ |
| enable         | function   | savehash | $ \hbox{function} $ |
| list           | function   | show     | $ \hbox{function} $ |

# typesetters (context)

| alignments   | table    | B keepligatu | re        |
|--------------|----------|--------------|-----------|
| F handler    |          | B keeptogeth | er        |
| F set        |          | D mapping    |           |
| breakpoints  | table    | F set        |           |
| N attribute  |          | margins      | table     |
| F define     |          | F finalhandl | er        |
| F handler    |          | F globalhand | ler       |
| D mapping    |          | F ha         |           |
| T methods    |          | F localhandl | er        |
| T numbers    |          | F save       |           |
| F set        |          | paragraphs   | table     |
| F setreplace | ment     | N attribute  |           |
| cases        | table    | T droppers   |           |
| T actions    |          | F freeze     |           |
| F handler    |          | F set        |           |
| F register   |          | F handler    |           |
| F set        |          | F set        |           |
| characters   | table    | processors   | table     |
| F handler    |          | F apply      |           |
| cleaners     | table    | F register   |           |
| F handler    |          | F reset      |           |
| F set        |          | F split      |           |
| digits       | table    | F startapply |           |
| T actions    |          | F stopapply  |           |
| N attribute  |          | F stripped   |           |
| F handler    |          | F tostring   |           |
| F set        |          | spacings     | table     |
| directions   | table    | N attribute  |           |
| F handler    |          | F define     |           |
| F process    |          | F handler    |           |
| F set        |          | D mapping    |           |
| fast_hpack   | function | T numbers    |           |
| hpack        | function | T frenchpur  | nctuation |
| italics      | table    | T charact    | ers       |
| F forcevaria | nt       | S name       |           |
| F handler    |          | N number     |           |
| F reset      |          | F reset      |           |
| F set        |          | F set        |           |
| kerns        | table    | F setup      |           |
| D factors    |          | tonodes      | function  |
| F handler    |          | vpack        | function  |

F set\_reflow\_width

F initialize\_reflow\_height

## unicode (extra lua)

| ascii     | table    | F gsub           |          |
|-----------|----------|------------------|----------|
| F byte    |          | F len            |          |
| F char    |          | F lower          |          |
| F dump    |          | F match          |          |
| F find    |          | F rep            |          |
| F format  |          | F reverse        |          |
| F gfind   |          | F sub            |          |
| F gmatch  |          | F upper          |          |
| F gsub    |          | ustring          | function |
| F len     |          | utf16_to_utf8    | function |
| F lower   |          | utf16_to_utf8_be | function |
| F match   |          | utf16_to_utf8_le | function |
| F rep     |          | utf32_to_utf8    | function |
| F reverse |          | utf32_to_utf8_be | function |
| F sub     |          | utf32_to_utf8_le | function |
| F upper   |          | utf8             | table    |
| filetype  | function | F byte           |          |
| grapheme  | table    | F char           |          |
| F byte    |          | F dump           |          |
| F char    |          | F find           |          |
| F dump    |          | F format         |          |
| F find    |          | F gfind          |          |
| F format  |          | F gmatch         |          |
| F gfind   |          | F gsub           |          |
| F gmatch  |          | F len            |          |
| F gsub    |          | F length         |          |
| F len     |          | F lower          |          |
| F lower   |          | F match          |          |
| F match   |          | F remapper       |          |
| F rep     |          | F rep            |          |
| F reverse |          | F reverse        |          |
| F sub     |          | F split          |          |
| F upper   |          | F splitines      |          |
| latin1    | table    | F string         |          |
| F byte    |          | F sub            |          |
| F char    |          | F toentities     |          |
| F dump    |          | F totable        |          |
| F find    |          | F upper          |          |
| F format  |          | F valid          |          |
| F gfind   |          | utf8_to_utf16    | function |
| F gmatch  |          | utf8_to_utf8     | function |

| utfcodes | function | utftype | function |
|----------|----------|---------|----------|
| utfname  | table    | xstring | function |

## url (context)

| addscheme | function | hashed    | function |
|-----------|----------|-----------|----------|
| barepath  | function | hasscheme | function |
| construct | function | query     | function |
| escape    | function | split     | function |
| filename  | function | toquery   | function |

## utilities (context)

| debugger           | table         |      | U keq_to_hash_c   |          |
|--------------------|---------------|------|-------------------|----------|
| F disable          | cubic         |      | U settings_to_arr | av       |
| F enable           |               |      | U settings_to_has |          |
| F savestats        |               |      | U settings_to_has | _        |
| F showstats        |               |      | U settings_to_has |          |
| formatters         | table         | -    | settings to array |          |
| F formatcolumns    | cubic         |      | settings_to_hash  | ,        |
| F list             |               |      | settings_to_hash_ | strict   |
| F stripzeros       |               |      | settings_to_hash_ | _        |
| garbagecollector   | table         |      | settings to set   |          |
| F check            |               |      | simple_hash_to_st | rina     |
| N criterium        |               |      | splitthousands    |          |
| B enabled          |               | repo | ·                 | function |
| lua                | table         | •    | iencers           | table    |
| B alwaysstripcode  |               | -    | appendaction      |          |
| F compile          |               | F    | appendgroup       |          |
| F loadedluacode    |               | F    | compile           |          |
| N nofstrippedbytes |               | F    | disableaction     |          |
| N nofstrippedchunk | S             | F    | disablegroup      |          |
| F stripbytecode    |               | F    | enableaction      |          |
| B stripcode        |               | F    | enablegroup       |          |
| F strippedbytecode |               | D    | functions         |          |
| F strippedloadstri | ng            | F    | localize          |          |
| packers            | table         | F    | new               |          |
| F hashed           |               | F    | nodeprocessor     |          |
| F new              |               | F    | prependaction     |          |
| F pack             |               | F    | prependgroup      |          |
| F simplehashed     |               | F    | removeaction      |          |
| F strip            |               | F    | setkind           |          |
| F unpack           |               | F    | tostring          |          |
| N version          |               | set  | ters              | table    |
| parsers            | table         | F    | disable           |          |
| F add_settings_to_ | array         | F    | enable            |          |
| F arguments_to_tab | le            | F    | initialize        |          |
| F array_to_string  |               | F    | list              |          |
| F getparameters    |               | F    | new               |          |
| F hash_to_string   |               | F    | register          |          |
| F keq_to_hash      |               | F    | reset             |          |
| F listitem         |               |      | show              |          |
| F make_settings_to | _hash_pattern | sta  |                   | table    |
| T patterns         |               | F    | new               |          |

| storage          | table | tabl | Les               | table |
|------------------|-------|------|-------------------|-------|
| F allocate       |       | F    | accesstable       |       |
| F checked        |       | F    | definetable       |       |
| F mark           |       | F    | encapsulate       |       |
| F marked         |       | F    | insertaftervalue  |       |
| F setinitializer |       | F    | insertbeforevalue | 9     |
| F sparse         |       | F    | migratetable      |       |
| strings          | table | F    | removevalue       |       |
| F collapsecrlf   |       | temp | olates            | table |
| F newrepeater    |       | F    | load              |       |
| F nice           |       | F    | replace           |       |

F striplong
F tabtospace

F resolve

## visualizers (context)

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

## xml (context)

| addentitiesdoctype   | function | D tex                     |            |
|----------------------|----------|---------------------------|------------|
| after                | function | D tex<br>D texline        |            |
| all                  | function | D textine D texspace      |            |
| applylpath           | function | D verbose                 |            |
| assign               | function | defaultprotocol           | string     |
| attribute            | function | delete                    | function   |
| before               | function | <del>delete_element</del> | function   |
| body                 | function | each                      | function   |
| builtinentities      | table    | each element              | function   |
| B amp                | tabte    | 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             | function | expressions               | table      |
| checkerror           | function | F boolean                 | cas co     |
| checknamespace       | function | F child                   |            |
| checkns              | function | F contains                |            |
| cleansed             | function | F count                   |            |
| collect              | function | F error                   |            |
| collect_elements     | function | F find                    |            |
| collect_tags         | function | Flower                    |            |
| collect texts        | function | F name                    |            |
| collected            | function | F number                  |            |
| collecttexts         | function | F oneof                   |            |
| content              | function | F print                   |            |
| convert              | function | F quit                    |            |
| сору                 | function | F tag                     |            |
| count                | function | F text                    |            |
| cprint               | function | F undefined               |            |
| CSS                  | table    | F upper                   |            |
| F colorspecification |          | fillin                    | function   |
| F dimension          |          | filter                    | function   |
| F fontspecification  |          | finalizers                | table      |
| F padding            |          | F paragraphs              |            |
| defaulthandlers      | table    | T tex                     |            |
| D file               |          | F all                     |            |
| D parsedxml          |          | F attribute               |            |
| D string             |          | F bibtexconcat            |            |
|                      |          |                           |            |

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

Т

| newhandlers                   | function            | root                | function        |
|-------------------------------|---------------------|---------------------|-----------------|
| nodesettostring               | function            | save                | function        |
| originalload                  | function            | selection           | function        |
| package                       | function            | separate            | function        |
| parent                        | function            | serialize           | function        |
| parsedentitylpeg              | userdata            | setcdata            | function        |
| pihandlers                    | table               | sethandlersfunction | function        |
| placeholders                  | table               | setproperty         | function        |
| F unknown_any_entity          |                     | settings            | function        |
| F unknown_dec_entity          |                     | specialhandler      | table           |
| F unknown_hex_entity          |                     | sprint              | function        |
| position                      | function            | string              | function        |
| privatecodes                  | table               | strip               | function        |
| privatetoken                  | function            | strip_whitespace    | <b>function</b> |
| process                       | function            | stripelement        | function        |
| <pre>process_attributes</pre> | function            | stripleadingspaces  | function        |
| <pre>process_elements</pre>   | function            | table               | function        |
| processattributes             | function            | text                | function        |
| profiled                      | table               | textonly            | function        |
| raw                           | function            | texttocdata         | function        |
| registerentity                | function            | tocdata             | function        |
| registerns                    | function            | toelement           | function        |
| remap_name                    | function            | tostring            | function        |
| remap_namespace               | function            | toxml               | function        |
| remap_tag                     | <del>function</del> | tprint              | function        |
| remapname                     | function            | traverse            | function        |
| remapnamespace                | function            | unescaped           | function        |
| remaptag                      | function            | unprivatized        | function        |
| renamespace                   | function            | withelement         | function        |
| replace                       | function            | withelements        | function        |
| replace_element               | function            | wrap                | function        |
| resolvens                     | function            | xmlns               | table           |
|                               |                     |                     |                 |

# zip (extra lua)

| archives     | table    | openarchive     | function |
|--------------|----------|-----------------|----------|
| close        | function | openfile        | function |
| closearchive | function | registeredfiles | table    |
| open         | function | type            | function |

#### zlib (extra lua)

adler32 function
compress function
compressobj function
crc32 function

decompress function
decompressobj function
version function