

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

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

# global (alias: \_G)

|                 |          |                   |          |
|-----------------|----------|-------------------|----------|
| 1               | table    | io                | table    |
| arg             | table    | ipairs            | function |
| assert          | function | job               | table    |
| attributes      | table    | lang              | table    |
| backends        | table    | languages         | table    |
| beginpage       | function | layouts           | table    |
| bibtex          | table    | lfs               | table    |
| blobs           | table    | libraries         | table    |
| boolean         | table    | lmx               | table    |
| buffers         | table    | load              | function |
| builders        | table    | loadfile          | function |
| caches          | table    | loadstring        | function |
| callback        | table    | logs              | table    |
| callbacks       | table    | lpdf              | table    |
| catcodes        | table    | lpeg              | table    |
| characters      | table    | ltn12             | table    |
| chemicals       | table    | lua               | table    |
| collectgarbage  | function | luatex            | table    |
| commands        | table    | lxml              | table    |
| containers      | table    | math              | table    |
| context         | function | mathematics       | table    |
| converters      | table    | md5               | table    |
| coroutine       | table    | metapost          | table    |
| debug           | table    | mime              | table    |
| dimen           | function | module            | function |
| dir             | table    | moduledata        | table    |
| directives      | table    | modules           | table    |
| document        | table    | mplib             | table    |
| documentdata    | table    | newline           | function |
| dofile          | function | newproxy          | function |
| endpage         | function | next              | function |
| environment     | table    | noads             | table    |
| epdf            | table    | node              | table    |
| error           | function | nodes             | table    |
| experiments     | table    | number            | table    |
| figures         | table    | os                | table    |
| file            | table    | outputpagestree   | function |
| floats          | table    | package           | table    |
| font            | table    | pairs             | function |
| fontloader      | table    | parametersets     | table    |
| fonts           | table    | pcall             | function |
| gcinfo          | function | pdf               | table    |
| getfenv         | function | physics           | table    |
| getmetatable    | function | print             | function |
| getreadfilename | function | profiler          | table    |
| global          | table    | protect           | function |
| gzip            | table    | rawequal          | function |
| img             | table    | rawget            | function |
| inspect         | function | rawset            | function |
| interactions    | table    | regimes           | table    |
| interfaces      | table    | report_characters | function |

|                           |                       |                               |                       |
|---------------------------|-----------------------|-------------------------------|-----------------------|
| <code>require</code>      | <code>function</code> | <code>tocontext</code>        | <code>function</code> |
| <code>resolvers</code>    | <code>table</code>    | <code>token</code>            | <code>table</code>    |
| <code>scripts</code>      | <code>table</code>    | <code>tokens</code>           | <code>table</code>    |
| <code>select</code>       | <code>function</code> | <code>tonumber</code>         | <code>function</code> |
| <code>set</code>          | <code>table</code>    | <code>tostring</code>         | <code>function</code> |
| <code>setfenv</code>      | <code>function</code> | <code>trace_characters</code> | <code>boolean</code>  |
| <code>setmetatable</code> | <code>function</code> | <code>traceback</code>        | <code>function</code> |
| <code>socket</code>       | <code>table</code>    | <code>tracers</code>          | <code>table</code>    |
| <code>sorters</code>      | <code>table</code>    | <code>trackers</code>         | <code>table</code>    |
| <code>statistics</code>   | <code>table</code>    | <code>type</code>             | <code>function</code> |
| <code>status</code>       | <code>table</code>    | <code>typesetters</code>      | <code>table</code>    |
| <code>storage</code>      | <code>table</code>    | <code>unicode</code>          | <code>table</code>    |
| <code>streams</code>      | <code>table</code>    | <code>unpack</code>           | <code>function</code> |
| <code>string</code>       | <code>table</code>    | <code>url</code>              | <code>table</code>    |
| <code>stripmath</code>    | <code>function</code> | <code>utf</code>              | <code>table</code>    |
| <code>structures</code>   | <code>table</code>    | <code>utilities</code>        | <code>table</code>    |
| <code>table</code>        | <code>table</code>    | <code>visualizers</code>      | <code>table</code>    |
| <code>tex</code>          | <code>table</code>    | <code>xml</code>              | <code>table</code>    |
| <code>texconfig</code>    | <code>table</code>    | <code>xpcall</code>           | <code>function</code> |
| <code>texio</code>        | <code>table</code>    | <code>zip</code>              | <code>table</code>    |
| <code>toboolean</code>    | <code>function</code> | <code>zlib</code>             | <code>table</code>    |

# attributes (context)

**colorintents**      table

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

**colors**            table

N attribute  
F cmyk  
F cmyktogray  
F cmyktorgb  
F colorcomponents  
B couple  
D data  
N default  
F defineintermediatecolor  
F definemixcolor  
F definemultitonecolor  
F defineprocesscolor  
F definesimplegray  
F definespotcolor  
F definetransparency  
F enable  
F filter  
F forcedmodel  
F forcesupport  
F formatcolor  
F formatgray  
F gray  
F graytohsv  
F handler  
F hsvtorgb  
F hsvtorgb  
F iccprofile  
F isblack  
N main  
S model  
F mpcolor  
F mpoptions  
U none  
F popset  
F pushset  
F register  
D registered  
F registerspotcolor  
F rgb  
F rgbtocmyk  
F rgbtorgb  
F rgbtohsv  
N selector

F setlist

F setmodel

D sets

F spot

F spotcolorname

F spotcolorparent

F spotcolorvalue

B supported

F transparencycomponents

B triggering

F usecolors

F value

D values

B weightgray

**define**            function

**effects**           table

N attribute

D data

F enable

F handler

F register

D registered

D values

**handlers**        table

**list**             data table

**names**            data table

**negatives**        table

N attribute

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

**transparencies** table

N attribute

D data

F enable

F forcesupport

F handler

|                     |        |                |
|---------------------|--------|----------------|
| U none              |        | F forcesupport |
| F register          |        | F handler      |
| D registered        |        | B hasorder     |
| B supported         |        | D listwise     |
| B triggering        |        | F register     |
| F value             |        | D registered   |
| D values            |        | D scopes       |
| <b>unsetvalue</b>   | number | F setfeatures  |
| <b>viewerlayers</b> | table  | F start        |
| N attribute         |        | F stop         |
| D data              |        | B supported    |
| F define            |        | D values       |
| F enable            |        |                |

# backends (context)

|                               |          |                         |
|-------------------------------|----------|-------------------------|
| <b>codeinjections</b>         | table    | F setformsmethod        |
| <b>current</b>                | string   | F setpagetransition     |
| <b>defaults</b>               | table    | F setupcanvas           |
| T codeinjections              |          | F setupidentity         |
| T nodeinjections              |          | F setxmpfile            |
| T registrations               |          | F startlayer            |
| D tables                      |          | F stoplayer             |
| <b>install</b>                | function | F supportedformats      |
| <b>nodeinjections</b>         | table    | F useviewerlayer        |
| F restore                     |          | F validfield            |
| F save                        |          | F validfieldcategory    |
| F transform                   |          | F validfieldset         |
| <b>nothing</b>                | function | S comment               |
| <b>pdf</b>                    | table    | T nodeinjections        |
| T codeinjections              |          | F addtags               |
| F addbookmarks                |          | F attachfile            |
| F addtransparencygroup        |          | F cmykcolor             |
| F attachmentid                |          | F comment               |
| F clonefield                  |          | F destination           |
| F definefield                 |          | F effect                |
| F definefieldset              |          | F graycolor             |
| F defineviewerlayer           |          | F injectbitmap          |
| F embedfile                   |          | F insertmovie           |
| F enabletags                  |          | F insertsound           |
| F exportformdata              |          | F insertswf             |
| F finalizepage                |          | F insertu3d             |
| F finishreference             |          | F knockout              |
| F getdefaultfieldvalue        |          | F negative              |
| F getfieldcategory            |          | F overprint             |
| F getfieldset                 |          | F positive              |
| F getformatoption             |          | F reference             |
| F getoutputfilename           |          | F rgbcolor              |
| F getpreviewfigure            |          | F spotcolor             |
| F insertrenderingwindow       |          | F startlayer            |
| F mergereferences             |          | F stoplayer             |
| F mergeviewerlayers           |          | F switchlayer           |
| F prerollreference            |          | F transparency          |
| F presetsymbol                |          | F typesetfield          |
| F presetsymbollist            |          | T registrations         |
| F processrendering            |          | F cmykindexcolor        |
| F registerdocumentcloseaction |          | F cmykspotcolor         |
| F registerdocumentopenaction  |          | F getspotcolorreference |
| F registeredsymbol            |          | F grayindexcolor        |
| F registerpagecloseaction     |          | F grayspotcolor         |
| F registerpageopenaction      |          | F rgbindexcolor         |
| F registersymbol              |          | F rgbspotcolor          |
| F setfieldcalculationset      |          | F spotcolorname         |
| F setfigurealternative        |          | F transparency          |
| F setfigurecolorspace         |          | T tables                |
| F setfiguremask               |          | T vfspecials            |
| F setformat                   |          | T black                 |

|              |  |                      |       |
|--------------|--|----------------------|-------|
| T blue       |  | T paleblue           |       |
| T gray       |  | T palegray           |       |
| T green      |  | T palegreen          |       |
| T red        |  | T palered            |       |
| T rulecolors |  | T red                |       |
| T black      |  | F startslant         |       |
| T blue       |  | T stopslant          |       |
| T gray       |  | <b>registrations</b> | table |
| T green      |  | <b>tables</b>        | table |

# bibtex (context)

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



# blobs (context)

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

# boolean (context)

tocontext    function  
tonumber    function

# buffers (context)

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

# builders (context)

**kernel**            table

- F hyphenation
- F kerning
- F ligaturing
- F mlist\_to\_hlist

**paragraphs** table

- T constructors
  - N attribute
  - F disable
  - F enable
  - F handler
  - T methods
    - F default
    - F oneline
  - D names
  - D numbers
  - F register
  - F set
- F kepttogether
- F registertogether
- T solutions
  - T splitters
    - F define

- F disable

- F enable

- F optimize

- F setup

- F split

- F tag

**vspacing**        table

- F analyze

- D categories

- F collapsevbox

- T data

- D map

- D skip

- D snapmethods

- F definesnapmethod

- B fixed

- F pagehandler

- F setmap

- F setskip

- F snapbox

- F tocategories

- F tocategory

- F vboxhandler

## cache (context)

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

## callback (basic tex)

|                       |                     |
|-----------------------|---------------------|
| <code>find</code>     | function            |
| <code>list</code>     | function            |
| <code>register</code> | overloaded function |

# callbacks (context)

|               |            |                 |          |
|---------------|------------|-----------------|----------|
| <b>freeze</b> | function   | <b>push</b>     | function |
| <b>known</b>  | function   | <b>register</b> | function |
| <b>list</b>   | data table | <b>report</b>   | function |
| <b>pop</b>    | function   | <b>table</b>    | function |

# catcodes (context)

|          |            |
|----------|------------|
| names    | data table |
| numbers  | data table |
| register | function   |



# characters (context)

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

## chemicals (context)

|                  |          |                       |          |
|------------------|----------|-----------------------|----------|
| <b>component</b> | function | <b>moleculeparser</b> | userdata |
| <b>define</b>    | function | <b>start</b>          | function |
| <b>format</b>    | string   | <b>stop</b>           | function |
| <b>inline</b>    | function | <b>structures</b>     | number   |
| <b>instance</b>  | string   | <b>undefine</b>       | function |
| <b>molecule</b>  | function |                       |          |

## commands (context)

|                           |          |                            |          |
|---------------------------|----------|----------------------------|----------|
| Alphabetic                | function | checkedpagefloat           | function |
| Character                 | function | checkstructurecountersetup | function |
| Characters                | function | checktwopassdata           | function |
| MPc                       | function | chineseallnumerals         | function |
| MPd                       | function | chinesecapnumerals         | function |
| MPh                       | function | chinesenumerals            | function |
| MPll                      | function | cleanfontname              | function |
| MPlr                      | function | clonefield                 | function |
| MPls                      | function | collectfloat               | function |
| MPn                       | function | collecthelp                | function |
| MPp                       | function | colorcomponents            | function |
| MPpardata                 | function | consultfloat               | function |
| MPplus                    | function | copyfileto log             | function |
| MPpos                     | function | copyposition               | function |
| MPr                       | function | counttwopassdata           | function |
| MPrest                    | function | currentcomponent           | function |
| MPrs                      | function | currentdate                | function |
| MPul                      | function | currentenvironment         | function |
| MPur                      | function | currentproduct             | function |
| MPw                       | function | currentproject             | function |
| MPx                       | function | currentregime              | function |
| MPxy                      | function | dayname                    | function |
| MPxywhd                   | function | defineattribute            | function |
| MPy                       | function | definebibtexsession        | function |
| Romannumerals             | function | definebreakpoint           | function |
| abjadnodotnumerals        | function | definebreakpoints          | function |
| abjadnumerals             | function | definecharacterspacing     | function |
| addff                     | function | defineconversion           | function |
| addfs                     | function | definedviewerlayer         | function |
| addlinklistelement        | function | definefield                | function |
| addstructurecounter       | function | definefieldset             | function |
| addtojavascriptpreamble   | function | definefilefallback         | function |
| addtolist                 | function | definefilesynonym          | function |
| allinputpaths             | function | definefont_one             | function |
| alphabetic                | function | definefont_two             | function |
| analysefloatmethod        | function | definefontfeature          | function |
| analyzelist               | function | defineintermediatecolor    | function |
| applytochars              | function | definelinkedlist           | function |
| applytowords              | function | definemarking              | function |
| assignbuffer              | function | definemultitonecolor       | function |
| autofinishstructurelevels | function | defineparallel             | function |
| autonextspace             | function | defineprocesscolor         | function |
| autonextstructurelevel    | function | definespotcolor            | function |
| autosetups                | function | definestructureblock       | function |
| autostarttext             | function | definestructurecounter     | function |
| autostoptext              | function | definestructureset         | function |
| boolcase                  | function | definetransparency         | function |
| character                 | function | definewopasslist           | function |
| characters                | function | defineviewerlayer          | function |
| checkcharactersinfont     | function | defrostrandomseed          | function |
| checkedconversion         | function | digits                     | function |

|                               |          |                         |          |
|-------------------------------|----------|-------------------------|----------|
| disableregime                 | function | enhancelinkedlist       | function |
| disablespellchecking          | function | enhancelist             | function |
| discardfromlist               | function | erasebuffer             | function |
| doanalyzeframedbox            | function | exportformdata          | function |
| doif                          | function | featureattribute        | function |
| doifblackelse                 | function | featurelist             | function |
| doifcommonelse                | function | feedback                | function |
| doifdimenstringelse           | function | fetchallmarks           | function |
| doifdrawingblackelse          | function | fetchonemark            | function |
| doifelse                      | function | fetchtwomarks           | function |
| doifelsebuffer                | function | filterreference         | function |
| doifelsecurrentfonthasfeature | function | finalizebox             | function |
| doifelseintwopassdata         | function | findtwopassdata         | function |
| doifelsemarking               | function | firstinset              | function |
| doifelseparallel              | function | firststructurecounter   | function |
| doifelsesavedfloat            | function | flushfloat              | function |
| doifelsespaces                | function | flushpostponedblocks    | function |
| doifelsestructurecounter      | function | fontchar                | function |
| doifelsevisualizer            | function | fontcollectionclone     | function |
| doiffielddcategoryelse        | function | fontcollectiondefine    | function |
| doiffielddelse                | function | fontcollectionprepare   | function |
| doiffielddsetelse             | function | fontcollectionregister  | function |
| doiffiledefinedelse           | function | fontcollectionreport    | function |
| doiffileexistelse             | function | fontcollectionreset     | function |
| doiffirstcharelse             | function | fontlookupgetkey        | function |
| doifinputfileelse             | function | fontlookupgetkeyofindex | function |
| doifinsetelse                 | function | fontlookupinitialize    | function |
| doifleapyearelse              | function | fontlookupnoffound      | function |
| doiflisthasentry              | function | forceendjob             | function |
| doiflisthasnumberelse         | function | forcequitjob            | function |
| doiflisthaspageelse           | function | format                  | function |
| doiflisthastitleelse          | function | formatcolor             | function |
| doiflocfileelse               | function | formatgray              | function |
| doifnot                       | function | freezerandomseed        | function |
| doifnotstructurecounter       | function | getbuffer               | function |
| doifolderversionelse          | function | getbufferctxlua         | function |
| doifoverlappingelse           | function | getbuffermkvi           | function |
| doifparentfileelse            | function | getdefaultfieldvalue    | function |
| doifpositionelse              | function | getfieldcategory        | function |
| doifpositionsonsamepageelse   | function | getfirstcharacter       | function |
| doifpositionsonthispageelse   | function | getfirsttwopassdata     | function |
| doifstructurecounter          | function | getfloatvariable        | function |
| doifurldefinedelse            | function | getinternalreference    | function |
| doprocstypescriptfile         | function | getlasttwopassdata      | function |
| doreshapeframedbox            | function | getmarking              | function |
| dostarttextfile               | function | getprivateattribute     | function |
| dostoptextfile                | function | getprivatechar          | function |
| elapsedtime                   | function | getrandomcounta         | function |
| enablecolor                   | function | getrandomcountb         | function |
| enablecolorintents            | function | getrandomseed           | function |
| enablefontcolorschemes        | function | getreadfilename         | function |
| enableregime                  | function | gettexbuffer            | function |
| enablespellchecking           | function | gettwopassdata          | function |
| enabletransparency            | function | gettwopassdatalist      | function |

|                             |          |                      |          |
|-----------------------------|----------|----------------------|----------|
| geturl                      | function | nbfs                 | function |
| grabbuffer                  | function | nextparallel         | function |
| helpaction                  | function | nextstructurecounter | function |
| helpreference               | function | nofdays              | function |
| hexstringtonumber           | function | nofitems             | function |
| hour                        | function | nofstackedfloats     | function |
| hyphenatedlist              | function | noteprefixednumber   | function |
| hyphenatedurl               | function | notetitle            | function |
| D characters                |          | ntimes               | function |
| N lefthyphenmin             |          | number               | function |
| D mapping                   |          | octnumber            | function |
| N righthyphenmin            |          | octstringtonumber    | function |
| F setcharacters             |          | ordinal              | function |
| incrementedstructurecounter | function | overloadbookmark     | function |
| insertattachment            | function | parpos               | function |
| insertcomment               | function | pdfrotation          | function |
| insertfield                 | function | percentageof         | function |
| insertrenderingwindow       | function | placeparallel        | function |
| insertsoundclip             | function | popfloat             | function |
| isleapyear                  | function | popitaliccorrection  | function |
| languagenumber              | function | poplist              | function |
| laststructurecounter        | function | pos                  | function |
| lchexnumber                 | function | posplus              | function |
| lchexnumbers                | function | posstrut             | function |
| leapyear                    | function | poswhd               | function |
| listlabel                   | function | posxy                | function |
| listlocation                | function | prepareMPvariable    | function |
| listprefixednumber          | function | preparebibtexsession | function |
| listprefixedpage            | function | preparedfile         | function |
| listrealpage                | function | presetsymbolist      | function |
| listsize                    | function | presettabulate       | function |
| listtitle                   | function | prevstructurecounter | function |
| listuserdata                | function | processbuffer        | function |
| loadctxprelist              | function | processedfile        | function |
| loadexamodes                | function | processedfiles       | function |
| loadfontgoodies             | function | processfile          | function |
| loadspellchecklist          | function | processfilemany      | function |
| loadtypescriptfile          | function | processfilenone      | function |
| loadvisualizer              | function | processfileonce      | function |
| locatefilepath              | function | processlist          | function |
| locfilename                 | function | pushfloat            | function |
| markcolumnbox               | function | pushitaliccorrection | function |
| markregionbox               | function | pushlist             | function |
| mathrenderset               | function | rawcharacter         | function |
| maxitemwidth                | function | rawdate              | function |
| minute                      | function | referencepagestate   | function |
| molecule                    | function | referencerealpage    | function |
| month                       | function | registerattachment   | function |
| monthmnm                    | function | registerbibtexentry  | function |
| monthname                   | function | registerbibtexfile   | function |
| mpcolor                     | function | registerbookmark     | function |
| mpoptions                   | function | registerbuttons      | function |
| namedstructureuservariable  | function | registercolor        | function |
| namedstructurevariable      | function | registercolorintent  | function |

|                            |          |                         |          |
|----------------------------|----------|-------------------------|----------|
| registeredviewerlayer      | function | setformsmethod          | function |
| registerhelp               | function | setinternalreference    | function |
| registeritemgroup          | function | setmarking              | function |
| registermaintextcolor      | function | setmathalphabet         | function |
| registernamespace          | function | setmathalternate        | function |
| registerpostponedblock     | function | setmathattribute        | function |
| registersoundclip          | function | setmathitalics          | function |
| registerstructureprocessor | function | setmathstyle            | function |
| registertransparency       | function | setopendocumentaction   | function |
| registerunit               | function | setopenpageaction       | function |
| relatemarking              | function | setownstructurecounter  | function |
| removemissingcharacters    | function | setpagetransition       | function |
| replacemissingcharacters   | function | setrandomseed           | function |
| replacepospxywhd           | function | setrealign              | function |
| resavefloat                | function | setreferencearguments   | function |
| resetfontfeature           | function | setreferenceoperation   | function |
| resetmarking               | function | setstructureblockstate  | function |
| resetmathitalics           | function | setstructurecounter     | function |
| resetnullfont              | function | settagcombination       | function |
| resetparallel              | function | settagdescription       | function |
| resetstructurecounter      | function | settagdescriptionsymbol | function |
| resetstructureprocessor    | function | settagfigure            | function |
| resettimer                 | function | settaghighlight         | function |
| restartstructurecounter    | function | settagitemgroup         | function |
| restorecurrentattributes   | function | settagproperty          | function |
| restorestructurecounter    | function | settagsorting           | function |
| romannumerals              | function | settagsynonym           | function |
| runbuffer                  | function | settagtablecell         | function |
| savebuffer                 | function | settagtabulatecell      | function |
| savecurrentattributes      | function | setupbookmarks          | function |
| savelistnumber             | function | setupcanvas             | function |
| savelistprefixednumber     | function | setupcharacterspacing   | function |
| savelisttitle              | function | setupexport             | function |
| savefloat                  | function | setupfontexpansion      | function |
| saveparallel               | function | setupfontprotrusion     | function |
| savestructureblock         | function | setupidentity           | function |
| savestructurecounter       | function | setupitaliccorrection   | function |
| savetaggedtwopassdata      | function | setxmpfile              | function |
| savetwopassdata            | function | showattributes          | function |
| second                     | function | showchardata            | function |
| selectstructureblock       | function | showfontparameters      | function |
| setbreakpoints             | function | showhyphenatedinlist    | function |
| setcharactercasing         | function | showstructurecounter    | function |
| setcharactercleaning       | function | splitfilename           | function |
| setcharacterkerning        | function | spotcolorname           | function |
| setcharacterspacing        | function | spotcolorparent         | function |
| setcharacterstripping      | function | spotcolorvalue          | function |
| setcloseddocumentaction    | function | startcolorset           | function |
| setclosepageaction         | function | startcomponent          | function |
| setcolormodel              | function | startenvironment        | function |
| setdigitsmanipulation      | function | startproduct            | function |
| setfontfeature             | function | startproject            | function |
| setfontofid                | function | startregime             | function |
| setformat                  | function | starttag                | function |

|                           |          |                            |          |
|---------------------------|----------|----------------------------|----------|
| starttext                 | function | useenvironment             | function |
| startviewerlayer          | function | usefile                    | function |
| stopcolorset              | function | usejavascriptpreamble      | function |
| stopcomponent             | function | usejavascriptscripts       | function |
| stopenvironment           | function | uselibrary                 | function |
| stopproduct               | function | useluafile                 | function |
| stopproject               | function | usemodules                 | function |
| stopregime                | function | usepath                    | function |
| stoptag                   | function | useproduct                 | function |
| stoptext                  | function | useproject                 | function |
| stopviewerlayer           | function | usesubpath                 | function |
| storejavascriptcode       | function | usesymbols                 | function |
| storejavascriptpreamble   | function | usetexfile                 | function |
| structureautocatcodedget  | function | useurl                     | function |
| structurecatcodedget      | function | usexmlfile                 | function |
| structurecountersubs      | function | usezipfile                 | function |
| structurecountervalue     | function | utfchar                    | function |
| structuregivencatcodedget | function | utfmathclass               | function |
| structurenumber           | function | utfmathcommand             | function |
| structuretitle            | function | utfmathfiller              | function |
| structureuservariable     | function | utfmathstretch             | function |
| structurevariable         | function | vspacing                   | function |
| subff                     | function | vspacingcollapse           | function |
| subfs                     | function | vspacingdefine             | function |
| synchronizemarking        | function | vspacingsetamount          | function |
| taggedmathfunction        | function | vspacingsnap               | function |
| testcase                  | function | weekday                    | function |
| textime                   | function | weekdayname                | function |
| transparencycomponents    | function | widthofstring              | function |
| triggereffect             | function | writestatus                | function |
| triggernegative           | function | x_table_cleanup            | function |
| truefilename              | function | x_table_construct          | function |
| typebuffer                | function | x_table_create             | function |
| typefile                  | function | x_table_flush              | function |
| typestring                | function | x_table_init_construct     | function |
| uchexnumber               | function | x_table_init_reflow_height | function |
| uchexnumbers              | function | x_table_init_reflow_width  | function |
| unicodechar               | function | x_table_next_row           | function |
| unit                      | function | x_table_reflow_height      | function |
| updatefilenames           | function | x_table_reflow_width       | function |
| useMPlibrary              | function | x_table_set_construct      | function |
| useanyfile                | function | x_table_set_reflow_height  | function |
| useclfile                 | function | x_table_set_reflow_width   | function |
| usecolors                 | function | year                       | function |
| usecomponent              | function |                            |          |

## containers (context)

|                        |          |
|------------------------|----------|
| <code>cleanname</code> | function |
| <code>content</code>   | function |
| <code>define</code>    | function |
| <code>is_usable</code> | function |

|                       |          |
|-----------------------|----------|
| <code>is_valid</code> | function |
| <code>read</code>     | function |
| <code>usecache</code> | boolean  |
| <code>write</code>    | function |



## converters (context)

|                    |          |                   |            |
|--------------------|----------|-------------------|------------|
| Alphabetic         | function | leapyear          | function   |
| Character          | function | maxchars          | function   |
| Characters         | function | minute            | function   |
| Romannumerals      | function | month             | function   |
| abjadnodotnumerals | function | nofdays           | function   |
| abjadnumerals      | function | number            | function   |
| alphabetic         | function | octnumber         | function   |
| character          | function | octstringtonumber | function   |
| characters         | function | ordinal           | function   |
| chineseallnumerals | function | rawcharacter      | function   |
| chinesecapnumerals | function | romannumerals     | function   |
| chinesenumerals    | function | second            | function   |
| chr                | function | sequences         | data table |
| chars              | function | textime           | function   |
| convert            | function | toabjad           | function   |
| define             | function | tochinese         | function   |
| hexstringtonumber  | function | toroman           | function   |
| hour               | function | uchexnumber       | function   |
| isleapyear         | function | uchexnumbers      | function   |
| lchexnumber        | function | weekday           | function   |
| lchexnumbers       | function | year              | function   |

## coroutine (basic lua)

|                         |          |                      |          |
|-------------------------|----------|----------------------|----------|
| <code>coco</code>       | boolean  | <code>running</code> | function |
| <code>create</code>     | function | <code>status</code>  | function |
| <code>cstacksize</code> | function | <code>wrap</code>    | function |
| <code>resume</code>     | function | <code>yield</code>   | function |

## debug (basic lua)

|                     |          |
|---------------------|----------|
| <b>debug</b>        | function |
| <b>getfenv</b>      | function |
| <b>gethook</b>      | function |
| <b>getinfo</b>      | function |
| <b>getlocal</b>     | function |
| <b>getmetatable</b> | function |
| <b>getregistry</b>  | function |

|                     |          |
|---------------------|----------|
| <b>getupvalue</b>   | function |
| <b>setfenv</b>      | function |
| <b>sethook</b>      | function |
| <b>setlocal</b>     | function |
| <b>setmetatable</b> | function |
| <b>setupvalue</b>   | function |
| <b>traceback</b>    | function |

## dir (context)

|                |          |
|----------------|----------|
| collectpattern | function |
| current        | function |
| expandname     | function |
| glob           | function |
| globfiles      | function |
| globpattern    | function |

|          |          |
|----------|----------|
| ls       | function |
| makedirs | function |
| mkdirs   | function |
| pop      | function |
| push     | function |

# directives (context)

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

# document (context)

|             |            |                    |          |
|-------------|------------|--------------------|----------|
| arguments   | data table | setargument        | function |
| files       | table      | setdefaultargument | function |
| getargument | function   | setfilename        | function |
| getfilename | function   |                    |          |

## environment (context)

|                     |            |                        |            |
|---------------------|------------|------------------------|------------|
| argument            | function   | luafilechunk           | function   |
| arguments           | data table | originalarguments      | data table |
| engineflags         | data table | outputfilename         | string     |
| files               | table      | ownbin                 | string     |
| filesynonyms        | data table | ownname                | string     |
| homedir             | string     | ownpath                | string     |
| initex              | boolean    | rawarguments           | data table |
| initializearguments | function   | reconstructcommandline | function   |
| inputfilebarename   | string     | setargument            | function   |
| inputfilename       | string     | splitarguments         | function   |
| inputfilesuffix     | string     | texfile                | function   |
| jobfilename         | string     | texmfos                | string     |
| jobfilesuffix       | string     | texos                  | string     |
| loadedluacode       | function   | texroot                | string     |
| loadluafile         | function   | truefilename           | function   |
| luafile             | function   |                        |            |

# epdf (extra tex)

|               |          |                     |          |
|---------------|----------|---------------------|----------|
| <b>Annot</b>  | function | <b>Object</b>       | function |
| <b>Annots</b> | function | <b>PDFRectangle</b> | function |
| <b>Array</b>  | function | <b>open</b>         | function |
| <b>Dict</b>   | function | <b>type</b>         | function |



# experiments (context)

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

# figures (context)

|               |            |                  |            |
|---------------|------------|------------------|------------|
| applyratio    | function   | hash             | function   |
| bases         | table      | identifiers      | data table |
| B enabled     |            | identify         | function   |
| F find        |            | include          | function   |
| T found       |            | includers        | data table |
| T list        |            | initialize       | function   |
| F locate      |            | loaded           | data table |
| F use         |            | localpaths       | data table |
| T used        |            | mergegoodies     | function   |
| bitmapimage   | function   | nofprocessed     | number     |
| boxnumber     | number     | order            | data table |
| 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   |
| exists        | data table | setlookups       | function   |
| exists        | function   | setpaths         | function   |
| formats       | data table | suffixes         | data table |
| found         | data table | tprint           | function   |
| get           | function   | used             | data table |

## file (basic lua)

|                                |          |                             |          |
|--------------------------------|----------|-----------------------------|----------|
| <code>addsuffix</code>         | function | <code>joinpath</code>       | function |
| <code>basename</code>          | function | <code>loadchecksum</code>   | function |
| <code>checksum</code>          | function | <code>nameonly</code>       | function |
| <code>collapsepath</code>      | function | <code>nametotable</code>    | function |
| <code>copy</code>              | function | <code>needs_updating</code> | function |
| <code>dirname</code>           | function | <code>readdata</code>       | function |
| <code>expandname</code>        | function | <code>removesuffix</code>   | function |
| <code>extname</code>           | function | <code>replacesuffix</code>  | function |
| <code>is_qualified_path</code> | function | <code>robustname</code>     | function |
| <code>is_readable</code>       | function | <code>savechecksum</code>   | function |
| <code>is_rootbased_path</code> | function | <code>savedata</code>       | function |
| <code>is_writable</code>       | function | <code>splitname</code>      | function |
| <code>isreadable</code>        | function | <code>splitpath</code>      | function |
| <code>iswritable</code>        | function | <code>strip</code>          | function |
| <code>join</code>              | function | <code>suffix</code>         | function |

# floats (context)

|                               |                       |                         |                       |
|-------------------------------|-----------------------|-------------------------|-----------------------|
| <code>analysemethod</code>    | <code>function</code> | <code>nofstacked</code> | <code>function</code> |
| <code>checkedpagefloat</code> | <code>function</code> | <code>pop</code>        | <code>function</code> |
| <code>collect</code>          | <code>function</code> | <code>push</code>       | <code>function</code> |
| <code>consult</code>          | <code>function</code> | <code>resave</code>     | <code>function</code> |
| <code>flush</code>            | <code>function</code> | <code>save</code>       | <code>function</code> |
| <code>getvariable</code>      | <code>function</code> | <code>stacked</code>    | <code>function</code> |

## font (basic tex)

|                      |          |
|----------------------|----------|
| <code>current</code> | function |
| <code>define</code>  | function |
| <code>each</code>    | function |
| <code>fonts</code>   | table    |
| <code>frozen</code>  | function |
| <code>getfont</code> | function |

|                       |          |
|-----------------------|----------|
| <code>id</code>       | function |
| <code>max</code>      | function |
| <code>nextid</code>   | function |
| <code>read_tfm</code> | function |
| <code>read_vf</code>  | function |
| <code>setfont</code>  | function |

## fontloader (extra tex)

|                                |                       |                       |                       |
|--------------------------------|-----------------------|-----------------------|-----------------------|
| <code>apply_afmfile</code>     | <code>function</code> | <code>info</code>     | <code>function</code> |
| <code>apply_featurefile</code> | <code>function</code> | <code>open</code>     | <code>function</code> |
| <code>close</code>             | <code>function</code> | <code>to_table</code> | <code>function</code> |
| <code>fields</code>            | <code>function</code> | <code>totable</code>  | <code>function</code> |
| <code>fullinfo</code>          | <code>function</code> |                       |                       |

# fonts (context)

|                           |       |  |                          |
|---------------------------|-------|--|--------------------------|
| <b>analyzers</b>          | table |  | T boundingbox            |
| D initializers            |       |  | S depth                  |
| D methods                 |       |  | S height                 |
| F setstate                |       |  | S width                  |
| B useunicodemarks         |       |  | T parameters             |
| <b>checkers</b>           | table |  | S ascender               |
| F missing                 |       |  | S descender              |
| <b>cid</b>                | table |  | S designsize             |
| F getmap                  |       |  | T expansion              |
| F loadfile                |       |  | S auto                   |
| <b>collections</b>        | table |  | S shrink                 |
| F clonevector             |       |  | S step                   |
| F define                  |       |  | S stretch                |
| T definitions             |       |  | S extendfactor           |
| F prepare                 |       |  | S factor                 |
| F process                 |       |  | S hfactor                |
| F registermain            |       |  | S mathsize               |
| F report                  |       |  | T protrusion             |
| F reset                   |       |  | S auto                   |
| T vectors                 |       |  | S quad                   |
| <b>constructors</b>       | table |  | S scaledpoints           |
| F aftercopyingcharacters  |       |  | S scriptpercentage       |
| F applymanipulators       |       |  | S scriptscriptpercentage |
| F assignmathparameters    |       |  | S size                   |
| B autocleanup             |       |  | S slantfactor            |
| F beforecopyingcharacters |       |  | S slantperpoint          |
| D cache                   |       |  | T spacing                |
| F calculatescale          |       |  | S extra                  |
| F checkedfeatures         |       |  | S shrink                 |
| F checkedfilename         |       |  | S stretch                |
| F cleanup                 |       |  | S width                  |
| F collectprocessors       |       |  | T synonyms               |
| D designsizes             |       |  | S em                     |
| D dontembed               |       |  | S ex                     |
| F enhanceparameters       |       |  | S extra_space            |
| N factor                  |       |  | S extraspace             |
| F finalize                |       |  | S slant                  |
| F getfeatureaction        |       |  | S space                  |
| F hashfeatures            |       |  | S space_shrink           |
| F hashinstance            |       |  | S space_stretch          |
| T hashmethods             |       |  | S spaceshrink            |
| F normal                  |       |  | S spacestretch           |
| F virtual                 |       |  | S x_height               |
| F initializefeatures      |       |  | S units                  |
| T keys                    |       |  | S vfactor                |
| T character               |       |  | S xheight                |
| S depth                   |       |  | T properties             |
| S height                  |       |  | S autoitalicamount       |
| S italic                  |       |  | T cidinfo                |
| S width                   |       |  | S embedding              |
| T description             |       |  | S encodingbytes          |

|                       |          |
|-----------------------|----------|
| S filename            |          |
| S finalized           |          |
| S fontname            |          |
| S format              |          |
| S fullname            |          |
| S hasitalics          |          |
| S hasmath             |          |
| S mathitalics         |          |
| S mode                |          |
| S name                |          |
| S noglyphnames        |          |
| S nostackmath         |          |
| S psname              |          |
| S textitalics         |          |
| S virtualized         |          |
| D loadedfonts         |          |
| S namemode            |          |
| F newfeatures         |          |
| N privateoffset       |          |
| F readanddefine       |          |
| F registerfeature     |          |
| B resolvevirtualtoo   |          |
| F scale               |          |
| F scaled              |          |
| F setfactor           |          |
| F setname             |          |
| N version             |          |
| <b>current</b>        | function |
| <b>currentid</b>      | function |
| <b>definers</b>       | table    |
| F addlookup           |          |
| F analyze             |          |
| F applypostprocessors |          |
| F checkedmode         |          |
| F checkedscript       |          |
| F current             |          |
| S defaultlookup       |          |
| F define              |          |
| F getspecification    |          |
| F loadfont            |          |
| F makespecification   |          |
| T methods             |          |
| F install             |          |
| D variants            |          |
| F read                |          |
| F register            |          |
| F registered          |          |
| F registersplit       |          |
| F resetnullfont       |          |
| F resolve             |          |
| T resolvers           |          |
| F file                |          |
| F name                |          |
| F spec                |          |

|                         |            |
|-------------------------|------------|
| <b>definetypeface</b>   | function   |
| <b>encodings</b>        | table      |
| T agl                   |            |
| D cache                 |            |
| F is_known              |            |
| D known                 |            |
| F load                  |            |
| F make_unicode_vector   |            |
| D math                  |            |
| N version               |            |
| <b>expansions</b>       | data table |
| <b>formats</b>          | data table |
| <b>goodies</b>          | table      |
| T colorschemes          |            |
| F coloring              |            |
| T data                  |            |
| F enable                |            |
| T designsizes           |            |
| D data                  |            |
| F filename              |            |
| F register              |            |
| F getcompositions       |            |
| T list                  |            |
| F compositions          |            |
| F designsizes           |            |
| F expansions            |            |
| F featureset            |            |
| F files                 |            |
| F mathematics           |            |
| F protrusions           |            |
| F solutions             |            |
| F typefaces             |            |
| F load                  |            |
| F prepare_features      |            |
| F register              |            |
| F registerpostprocessor |            |
| F report                |            |
| <b>handlers</b>         | table      |
| T afm                   |            |
| B addkerns              |            |
| B addligatures          |            |
| B addtexligatures       |            |
| B autoprefixed          |            |
| D cache                 |            |
| D features              |            |
| F load                  |            |
| F setfeatures           |            |
| B syncspace             |            |
| N version               |            |
| T otf                   |            |
| F addfeature            |            |
| D cache                 |            |
| T chainhandlers         |            |
| F normal                |            |



- F verbose
- F collectlookups
- F dataset
- S defaultbasealternate
- S defaultnodealternate
- D enhancers
- D features
- F getalternate
- T glists
- F load
- F scriptandlanguage
- F setcontextchain
- F setdynamics
- F setfeatures
- T tables
  - D baselines
  - D features
  - D languages
  - D scripts
- N version
- T pfb
- T tfm
  - D features
  - F setfeatures
- T vf
  - T combinations
  - F combine
  - T combiner
    - D commands
  - F find
  - D helpers
  - D math
  - D predefined
  - D whatever
- hashes**                    table
  - D characters
  - D csnames
  - D descriptions
  - T dynamics
  - D identifiers
  - D italics
  - D marks
  - D parameters
  - T processes
  - D properties
  - D quads
  - D resources
  - T setdynamics
  - D xheights
- helpers**                    table
  - F addprivate
  - F dimenfactor
  - F getdigitwidth
  - F getparameters

- F getprivatenode
- F hasprivate
- F nametoslot
- F setdigitwidth
- iterators**                    table
  - F characters
  - F descriptions
  - F glyphs
- loggers**                    table
  - T category\_to\_placeholder
  - S ll
  - S lm
  - S lo
  - S lt
  - S lu
  - S mc
  - S me
  - S mn
  - S nd
  - S nl
  - S no
  - S pc
  - S pd
  - S pe
  - S pf
  - S pi
  - S po
  - S ps
  - S sc
  - S sk
  - S sm
  - S so
  - F format
  - F onetimemessage
  - F register
  - F reportdefinedfonts
  - F reportusedfeatures
- mappings**                    table
  - F addtounicode
  - F fromunicode16
  - F loadfile
  - F loadline
  - F loadlumtable
  - F makenameparser
  - F reset
  - F tounicode16
  - F tounicode16sequence
- names**                    table
  - S basename
  - B be\_clever
  - D cache
  - F cleanfilename
  - F cleannname
  - F collect

|                         |                    |            |
|-------------------------|--------------------|------------|
| F collectfiles          | D specifications   |            |
| F collectspec           | F splitspec        |            |
| T data                  | N version          |            |
| B enabled               | F writedata        |            |
| F exists                | <b>protrusions</b> | data table |
| T filters               | <b>readers</b>     | table      |
| F afm                   | F afm              |            |
| F dfont                 | F check_lua        |            |
| T list                  | F check_tfm        |            |
| T names                 | F dfont            |            |
| F otf                   | F lua              |            |
| T paths                 | F opentype         |            |
| F pfb                   | F otf              |            |
| F ttc                   | F pfb              |            |
| F ttf                   | D sequence         |            |
| S fontconfigfile        | F tfm              |            |
| F getfilename           | F ttc              |            |
| F getlookupkey          | F ttf              |            |
| F getlookups            | <b>specifiers</b>  | table      |
| F getpaths              | D contextmerged    |            |
| F identify              | F contextnumber    |            |
| F is_permitted          | D contextnumbers   |            |
| F list                  | D contextsetups    |            |
| F load                  | F contexttostring  |            |
| B loaded                | F mergecontext     |            |
| F lookup                | F presetcontext    |            |
| F noflookups            | F registercontext  |            |
| S osfontdirvariable     | F showcontext      |            |
| F readdata              | F splitcontext     |            |
| F register              | D synonyms         |            |
| F registered            | D variants         |            |
| F resolve               | <b>symbols</b>     | table      |
| F resolvedspecification | F uselibrary       |            |
| F resolvespec           | <b>tables</b>      | table      |
| B saved                 | <b>tracers</b>     | table      |
| F specification         | <b>typefaces</b>   | data table |

## gzip (extra lua)

`close`   function  
`lines`   function  
`open`    function

## img (basic tex)

|                      |                 |
|----------------------|-----------------|
| <b>boxes</b>         | <b>function</b> |
| <b>checksize</b>     | <b>function</b> |
| <b>clone</b>         | <b>function</b> |
| <b>copy</b>          | <b>function</b> |
| <b>immediatwrite</b> | <b>function</b> |
| <b>keys</b>          | <b>function</b> |
| <b>new</b>           | <b>function</b> |
| <b>node</b>          | <b>function</b> |

|                  |                 |
|------------------|-----------------|
| <b>ofindex</b>   | <b>function</b> |
| <b>package</b>   | <b>function</b> |
| <b>print</b>     | <b>function</b> |
| <b>scan</b>      | <b>function</b> |
| <b>serialize</b> | <b>function</b> |
| <b>totable</b>   | <b>function</b> |
| <b>types</b>     | <b>function</b> |
| <b>write</b>     | <b>function</b> |

# interactions (context)

**attachments** table

F insert

F register

**fields** table

F clone

F define

F defineset

F insert

**general** table

F getidentity

F setupidentity

**help** table

F collect

F reference

F register

**javascripts** table

F addtopreamble

F code

D codes

F flushpreambles

D functions

D preambles

F setpreamble

F storecode

F storepreamble

F usepreamblenow

F usescripts

**linkedlists** table

**pages** table

F setpagetransition

F setupcanvas

**references** table

F setclosedocument

F setclosepage

F setopendocument

F setopenpage

**renderings** table

F register

F rendering

F var

**soundclips** table

F insert

F register

# interfaces (context)

|                             |            |                         |            |
|-----------------------------|------------|-------------------------|------------|
| <b>addvalidkeys</b>         | function   | <b>namespaces</b>       | table      |
| <b>cachedsetups</b>         | data table | F define                |            |
| <b>cachesetup</b>           | function   | F list                  |            |
| <b>complete</b>             | data table | <b>setconstant</b>      | function   |
| <b>constants</b>            | data table | <b>setelement</b>       | function   |
| <b>corenamespaces</b>       | data table | <b>setformat</b>        | function   |
| <b>definecommand</b>        | function   | <b>setmessage</b>       | function   |
| <b>doifelsemessage</b>      | function   | <b>setmessages</b>      | function   |
| <b>elements</b>             | data table | <b>settranslation</b>   | function   |
| <b>formats</b>              | data table | <b>setuserinterface</b> | function   |
| <b>getcheckedparameters</b> | function   | <b>setvalidkeys</b>     | function   |
| <b>getmessage</b>           | function   | <b>setvariable</b>      | function   |
| <b>hashedsetups</b>         | data table | <b>showmessage</b>      | function   |
| <b>interfacedcommand</b>    | function   | <b>syntax</b>           | data table |
| <b>interfaces</b>           | table      | <b>tolist</b>           | function   |
| <b>invalidkey</b>           | function   | <b>translations</b>     | data table |
| <b>is_command</b>           | function   | <b>variables</b>        | data table |

## io (basic lua)

|                 |          |                |                     |
|-----------------|----------|----------------|---------------------|
| ask             | function | out            | table               |
| bytes           | function | F inhibit      |                     |
| characters      | function | D modes        |                     |
| checkopeners    | function | F permit       |                     |
| close           | function | output         | function            |
| exists          | function | pathseparator  | string              |
| fileseparator   | string   | popen          | overloaded function |
| finalizeopeners | function | read           | function            |
| flush           | function | readnumber     | function            |
| inp             | table    | readstring     | function            |
| F inhibit       |          | registeropener | function            |
| D modes         |          | savedata       | function            |
| F permit        |          | size           | function            |
| input           | function | stderr         | userdata            |
| lines           | function | stdin          | userdata            |
| loaddata        | function | stdout         | userdata            |
| noflines        | function | tmpfile        | function            |
| open            | function | type           | function            |
| open_ro         | function | write          | function            |

# job (context)

**comment**        function  
**disablesave**   function  
**files**         table  
    D collected  
    F context  
    B forcerun  
    F run  
    D tobesaved  
**initialize**    function  
**load**          function  
**loadother**    function  
**objects**       table  
    D collected  
    F doifelse  
    F get  
    F number  
    F page  
    F save  
    F set  
    D tobesaved  
**pack**           boolean  
**passes**        table  
    F check  
    D collected  
    F count  
    F define  
    F find  
    F first  
    F get  
    F getcollected  
    F getdata  
    F getfield  
    F gettobesaved  
    F inlist  
    F last  
    F list  
    F save  
    F savetagged  
    D tobesaved  
**positions**     table  
    F b\_column  
    F b\_region  
    F c  
    D collected  
    F column  
    F copy  
    F depth  
    F e\_column  
    F e\_region

    F enhance  
    F extra  
    F get  
    F getreserved  
    F hangafter  
    F hangindent  
    F height  
    F hsize  
    F leftskip  
    F lowerleft  
    F lowerright  
    F markcolumnbox  
    F markregionbox  
    F n  
    F onsamepage  
    F overlapping  
    F p  
    F page  
    F paragraph  
    F parindent  
    F position  
    F r  
    F region  
    F replace  
    F rightskip  
    F set  
    F setall  
    F setdim  
    D tobesaved  
    F upperleft  
    F upperright  
    F width  
    F x  
    F xy  
    F y  
**register**       function  
**save**           function  
**structure**     table  
    D collected  
    T tobesaved  
    T branches  
    S name  
    S type  
**variables**     table  
    D checksums  
    D collected  
    F save  
    D tobesaved  
**version**       number



## lang (basic tex)

|                                |          |
|--------------------------------|----------|
| <code>clean</code>             | function |
| <code>clear_hyphenation</code> | function |
| <code>clear_patterns</code>    | function |
| <code>exceptions</code>        | function |
| <code>hyphenate</code>         | function |
| <code>hyphenation</code>       | function |
| <code>id</code>                | function |

|                               |          |
|-------------------------------|----------|
| <code>new</code>              | function |
| <code>patterns</code>         | function |
| <code>postexhyphenchar</code> | function |
| <code>posthyphenchar</code>   | function |
| <code>preexhyphenchar</code>  | function |
| <code>prehyphenchar</code>    | function |

# languages (context)

|                      |            |                       |            |
|----------------------|------------|-----------------------|------------|
| <b>associate</b>     | function   | <b>numbers</b>        | data table |
| <b>associated</b>    | data table | <b>posthyphenchar</b> | function   |
| <b>association</b>   | function   | <b>prehyphenchar</b>  | function   |
| <b>counters</b>      | data table | <b>registered</b>     | data table |
| <b>current</b>       | function   | <b>righthyphenmin</b> | function   |
| <b>data</b>          | data table | <b>setdirty</b>       | function   |
| <b>define</b>        | function   | <b>synonym</b>        | function   |
| <b>exceptions</b>    | function   | <b>version</b>        | number     |
| <b>getnumber</b>     | function   | <b>words</b>          | table      |
| <b>hyphenate</b>     | function   |                       |            |
| <b>installed</b>     | function   | F check               |            |
| <b>labels</b>        | table      | T data                |            |
| F define             |            | F disable             |            |
| F split              |            | F enable              |            |
| <b>lefthyphenmin</b> | function   | T enablers            |            |
| <b>loadable</b>      | function   | B enables             |            |
| <b>loadwords</b>     | function   | F found               |            |
| <b>logger</b>        | table      | F load                |            |
| F report             |            | T methods             |            |
|                      |            | N threshold           |            |

# layouts (context)

```
status table
  F isleftpage
  F leftorrightpagection
```

## lfs (extra lua)

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

# libraries (context)

`basiclua` data table  
`basictex` data table  
`builtin` data table

`extralua` data table  
`extratex` data table  
`globals` data table

## lmx (context)

|                            |          |                            |            |
|----------------------------|----------|----------------------------|------------|
| <code>convert</code>       | function | <code>pv</code>            | function   |
| <code>escape</code>        | function | <code>reset</code>         | function   |
| <code>get</code>           | function | <code>result</code>        | function   |
| <code>htmfile</code>       | function | <code>set</code>           | function   |
| <code>include</code>       | function | <code>show</code>          | function   |
| <code>lmxfile</code>       | function | <code>showdebuginfo</code> | function   |
| <code>loadedfile</code>    | function | <code>showerror</code>     | function   |
| <code>make</code>          | function | <code>tv</code>            | function   |
| <code>new</code>           | function | <code>type</code>          | function   |
| <code>overloaderror</code> | function | <code>urlescape</code>     | function   |
| <code>popupfile</code>     | function | <code>variable</code>      | function   |
| <code>print</code>         | function | <code>variables</code>     | data table |

# logs (context)

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

# lpdf (context)

|                        |            |                           |          |
|------------------------|------------|---------------------------|----------|
| action                 | function   | id                        | function |
| adddocumentcolorspace  | function   | injectxmpinfo             | function |
| adddocumenttextgstate  | 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 |
| colorspec              | function   | reserveobject             | function |
| colorvalue             | function   | rgbcode                   | function |
| colorvalues            | function   | rotationcm                | function |
| constant               | function   | shareobject               | function |
| delayedobject          | function   | shareobjectreference      | function |
| dictionary             | function   | spotcode                  | function |
| epdf                   | table      | stream                    | function |
| F load                 |            | string                    | function |
| finalizedocument       | function   | timestamp                 | function |
| finalizepage           | function   | toeight                   | function |
| finishtransparencycode | function   | tosixteen                 | function |
| flushobject            | function   | transparency              | function |
| flushstreamfileobject  | function   | transparencycode          | function |
| flushstreamobject      | function   | transparencyvalue         | function |
| formats                | data table | unicode                   | function |
| graycode               | function   | verbose                   | function |



# lpeg (basic lua)

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

# ltn12 (extra lua)

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

# lua (basic tex)

|                    |                 |                          |                 |
|--------------------|-----------------|--------------------------|-----------------|
| <b>bytecode</b>    | <b>table</b>    | <b>messages</b>          | data table      |
| bytedata           | data table      | <b>name</b>              | <b>table</b>    |
| bytdone            | table           | <b>numbers</b>           | data table      |
| collectgarbage     | function        | <b>registercode</b>      | function        |
| delay              | function        | <b>registeredcodes</b>   | function        |
| finalize           | function        | <b>registerfinalizer</b> | function        |
| firstbytecode      | number          | <b>registername</b>      | function        |
| flush              | function        | <b>setbytecode</b>       | <b>function</b> |
| flushdelayed       | function        | <b>setluaname</b>        | <b>function</b> |
| <b>getbytecode</b> | <b>function</b> | <b>startupfile</b>       | string          |
| <b>getluaname</b>  | <b>function</b> | <b>version</b>           | string          |
| lastbytecode       | number          |                          |                 |

# luatex (context)

|                                   |          |                          |          |
|-----------------------------------|----------|--------------------------|----------|
| <code>cleanuptempfiles</code>     | function | <code>showjobstat</code> | function |
| <code>registerstartactions</code> | function | <code>showtexstat</code> | function |
| <code>registerstopactions</code>  | function | <code>starttime</code>   | number   |
| <code>registertempfile</code>     | function |                          |          |

# lxml (context)

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

## math (basic lua)

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

# mathematics (context)

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

# md5 (extra lua)

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



# metapost (context)

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

## mime (extra lua)

**b64**           function  
**decode**       function  
**decodet**      table  
    F base64  
    F quoted-printable  
**dot**           function  
**encode**       function  
**encodet**      table  
    F base64  
    F quoted-printable  
**eol**           function  
**normalize**    function

**qp**            function  
**qpwrp**        function  
**stuff**        function  
**unb64**        function  
**unqp**         function  
**wrap**         function  
**wrapt**        table  
    F base64  
    F default  
    F quoted-printable  
    F text  
**wrp**           function

# mplib (extra tex)

|                     |                       |                       |                       |
|---------------------|-----------------------|-----------------------|-----------------------|
| <code>fields</code> | <code>function</code> | <code>pen_info</code> | <code>function</code> |
| <code>new</code>    | <code>function</code> | <code>version</code>  | <code>function</code> |

# 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)

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

# nodes (context)

|                               |            |                                |            |
|-------------------------------|------------|--------------------------------|------------|
| <b>after</b>                  | function   | F setmark                      |            |
| <b>aligned</b>                | function   | F setpair                      |            |
| <b>astable</b>                | function   | <b>installattributehandler</b> | function   |
| <b>before</b>                 | function   | <b>is_display_math</b>         | function   |
| <b>builders</b>               | table      | <b>is_mirrored</b>             | data table |
| F buildpage_filter            |            | <b>is_rotated</b>              | data table |
| F vpack_filter                |            | <b>kerncodes</b>               | data table |
| <b>codes</b>                  | data table | <b>leftmarginwidth</b>         | function   |
| <b>concat</b>                 | function   | <b>lines</b>                   | table      |
| <b>count</b>                  | function   | T boxed                        |            |
| <b>delete</b>                 | function   | F register                     |            |
| <b>destinations</b>           | table      | F setup                        |            |
| N attribute                   |            | F stage_one                    |            |
| T done                        |            | F stage_two                    |            |
| F handler                     |            | F stage_zero                   |            |
| T stack                       |            | D data                         |            |
| <b>dimensionfields</b>        | data table | F finalize                     |            |
| <b>dir_is_pop</b>             | data table | F number                       |            |
| <b>dir_negation</b>           | data table | N scratchbox                   |            |
| <b>fasthpack</b>              | function   | <b>link</b>                    | function   |
| <b>fields</b>                 | function   | <b>list</b>                    | function   |
| <b>fillcodes</b>              | data table | <b>listablefields</b>          | data table |
| <b>firstcharacter</b>         | function   | <b>listcodes</b>               | data table |
| <b>firstcharinbox</b>         | function   | <b>listtoutf</b>               | function   |
| <b>firstglyph</b>             | function   | <b>load</b>                    | function   |
| <b>getattribute</b>           | function   | <b>locate</b>                  | function   |
| <b>gluecodes</b>              | data table | <b>mathcodes</b>               | data table |
| <b>glyphcodes</b>             | data table | <b>noadcodes</b>               | data table |
| <b>glyphdir_is_equal</b>      | data table | <b>nodecodes</b>               | data table |
| <b>glyphdir_is_opposite</b>   | data table | <b>packlist</b>                | function   |
| <b>glyphdir_is_orthogonal</b> | data table | <b>pardir_is_equal</b>         | data table |
| <b>handlers</b>               | table      | <b>pardir_is_opposite</b>      | data table |
| F accessibility               |            | <b>pardir_is_parallel</b>      | data table |
| F backgrounds                 |            | <b>partextdir_is_equal</b>     | data table |
| F characters                  |            | <b>penaltycodes</b>            | data table |
| F checkforleaks               |            | <b>pool</b>                    | table      |
| F checkglyphs                 |            | F baselineskip                 |            |
| F cleanuppage                 |            | F cleanup                      |            |
| F export                      |            | F disc                         |            |
| F finalize                    |            | F fontkern                     |            |
| F migrate                     |            | F glue                         |            |
| F protectglyphs               |            | F gluespec                     |            |
| F stripping                   |            | F glyph                        |            |
| F unprotectglyphs             |            | F kern                         |            |
| <b>has_attribute</b>          | function   | F latelua                      |            |
| <b>idtoString</b>             | function   | F leftmarginkern               |            |
| <b>ignorablefields</b>        | data table | F leftskip                     |            |
| <b>injections</b>             | table      | F lineskip                     |            |
| F handler                     |            | F noad                         |            |
| F setcursive                  |            | F pdfannotation                |            |
| F setkern                     |            | F pdfdestination               |            |

|                         |          |                     |            |
|-------------------------|----------|---------------------|------------|
| F pdfdirect             |          | setunsetattributes  | function   |
| F pdfliteral            |          | shifts              | table      |
| F pdfrestore            |          | D data              |            |
| F pdfsave               |          | F define            |            |
| F pdfsetmatrix          |          | F enable            |            |
| F penalty               |          | F handler           |            |
| F register              |          | show                | function   |
| F rightmarginkern       |          | showboxes           | function   |
| F rightskip             |          | showcodes           | function   |
| F rule                  |          | showlist            | function   |
| F shrink                |          | showsimplelist      | function   |
| F special               |          | skipcodes           | data table |
| F stretch               |          | somepenalty         | function   |
| F temp                  |          | somespace           | function   |
| F textdir               |          | stripping           | table      |
| F usage                 |          | T glyphs            |            |
| T userids               |          | F set               |            |
| N margins.inline        |          | striprange          | function   |
| N splitters.one         |          | tasks               | table      |
| N splitters.two         |          | F actions           |            |
| F userlist              |          | F appendaction      |            |
| F usernumber            |          | F disableaction     |            |
| F userstring            |          | F disablegroup      |            |
| F usertokens            |          | F enableaction      |            |
| F zeroglue              |          | F enablegroup       |            |
| print                   | function | F freeze            |            |
| processors              | table    | F freezegroup       |            |
| B enabled               |          | F new               |            |
| F hpack_filter          |          | F prependaction     |            |
| F post_linebreak_filter |          | F removeaction      |            |
| F pre_linebreak_filter  |          | F restart           |            |
| F tracer                |          | F showactions       |            |
| processwords            | function | F table             |            |
| reference               | function | texmdir_is_equal    | data table |
| references              | table    | texmdir_is_is       | data table |
| N attribute             |          | texmdir_is_opposite | data table |
| T done                  |          | texmdir_is_parallel | data table |
| F handler               |          | tonodes             | function   |
| T stack                 |          | tosequence          | function   |
| remove                  | function | totable             | function   |
| repackhlist             | function | toutf               | function   |
| replace                 | function | tracers             | table      |
| report                  | function | T characters        |            |
| rightmarginwidth        | function | F collect           |            |
| rules                   | table    | F equal             |            |
| D data                  |          | F indices           |            |
| F define                |          | F start             |            |
| F enable                |          | F string            |            |
| F handler               |          | F unicodes          |            |
| save                    | function | T colors            |            |
| serialize               | function | F reset             |            |
| serializebox            | function | F set               |            |
| setattribute            | function | F fontchar          |            |
| setattributes           | function | F start             |            |

|            |                 |            |
|------------|-----------------|------------|
| T steppers | F start         |            |
| F check    | F stop          |            |
| F codes    | F stop          |            |
| F features | unsetattribute  | function   |
| F glyphs   | unsetattributes | function   |
| F message  | visualizebox    | function   |
| F messages | whatcodes       | data table |
| F nofsteps | whatsitcodes    | data table |
| F register | writable_spec   | function   |
| F reset    |                 |            |



## number (context)

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

## os (basic lua)

|                           |                     |                        |                     |
|---------------------------|---------------------|------------------------|---------------------|
| <code>__getenv__</code>   | function            | <code>rename</code>    | function            |
| <code>__setenv__</code>   | function            | <code>resolvers</code> | table               |
| <code>binsuffix</code>    | string              | <code>resultof</code>  | function            |
| <code>clock</code>        | function            | <code>runtime</code>   | function            |
| <code>date</code>         | function            | <code>selfdir</code>   | string              |
| <code>difftime</code>     | function            | <code>setenv</code>    | overloaded function |
| <code>env</code>          | data table          | <code>setlocale</code> | overloaded function |
| <code>exec</code>         | overloaded function | <code>sleep</code>     | function            |
| <code>execute</code>      | overloaded function | <code>spawn</code>     | overloaded function |
| <code>exit</code>         | function            | <code>time</code>      | function            |
| <code>getenv</code>       | overloaded function | <code>times</code>     | function            |
| <code>gettimeofday</code> | function            | <code>timezone</code>  | function            |
| <code>launch</code>       | function            | <code>tmpdir</code>    | function            |
| <code>libsuffix</code>    | string              | <code>tmpname</code>   | function            |
| <code>name</code>         | string              | <code>type</code>      | string              |
| <code>platform</code>     | string              | <code>uname</code>     | function            |
| <code>remove</code>       | function            | <code>uuid</code>      | function            |

## package (basic lua)

|                              |          |                               |          |
|------------------------------|----------|-------------------------------|----------|
| <code>appendtolibpath</code> | function | <code>loaders</code>          | table    |
| <code>clibpaths</code>       | function | <code>loadlib</code>          | function |
| <code>config</code>          | string   | <code>path</code>             | string   |
| <code>cpath</code>           | string   | <code>preload</code>          | table    |
| <code>libpaths</code>        | function | <code>prependtolibpath</code> | function |
| <code>loaded</code>          | table    | <code>seeall</code>           | function |

## pdf (basic tex)

|                             |                       |
|-----------------------------|-----------------------|
| <code>immediateobj</code>   | <code>function</code> |
| <code>mapfile</code>        | <code>function</code> |
| <code>mapline</code>        | <code>function</code> |
| <code>maxobjnum</code>      | <code>function</code> |
| <code>obj</code>            | <code>function</code> |
| <code>objtype</code>        | <code>function</code> |
| <code>pageattributes</code> | <code>string</code>   |
| <code>pageref</code>        | <code>function</code> |

|                              |                       |
|------------------------------|-----------------------|
| <code>pageresources</code>   | <code>string</code>   |
| <code>pagesattributes</code> | <code>string</code>   |
| <code>pdfmapfile</code>      | <code>function</code> |
| <code>pdfmapline</code>      | <code>function</code> |
| <code>print</code>           | <code>function</code> |
| <code>refobj</code>          | <code>function</code> |
| <code>registerannot</code>   | <code>function</code> |
| <code>reserveobj</code>      | <code>function</code> |

# physics (context)

|       |           |   |           |
|-------|-----------|---|-----------|
| units | table     | S | Hz        |
| T     | tables    | S | W         |
| T     | shortcuts | S | b         |
| T     | operators | S | g         |
| S     | *         | S | h         |
| S     | .         | S | hz        |
| S     | /         | S | l         |
| S     | :         | S | lx        |
| T     | prefixes  | S | m         |
| S     | E         | S | n         |
| S     | G         | S | s         |
| S     | M         | S | t         |
| S     | P         | S | v         |
| S     | T         | S | °C        |
| S     | Y         | S |           |
| S     | Z         | T | units     |
| S     | a         | T | operators |
| S     | c         | S | OutOf     |
| S     | d         | S | Per       |
| S     | da        | S | Solidus   |
| S     | f         | S | Times     |
| S     | h         | T | packaged  |
| S     | k         | S | Micron    |
| S     | m         | S | mmHg      |
| S     | n         | T | prefixes  |
| S     | p         | S | Atto      |
| S     | u         | S | Centi     |
| S     | y         | S | Deca      |
| S     | z         | S | Deci      |
| T     | suffixes  | S | Exa       |
| S     | +1        | S | Exbi      |
| S     | +2        | S | Femto     |
| S     | +3        | S | Gibi      |
| S     | -1        | S | Giga      |
| S     | -2        | S | Hecto     |
| S     | -3        | S | Kibi      |
| S     | 1         | S | Kilo      |
| S     | 2         | S | Mebi      |
| S     | 3         | S | Mega      |
| S     | ^+1       | S | Micro     |
| S     | ^+2       | S | Milli     |
| S     | ^+3       | S | Nano      |
| S     | ^-1       | S | Pebi      |
| S     | ^-2       | S | Peta      |
| S     | ^-3       | S | Pico      |
| S     | ^1        | S | Root      |
| S     | ^2        | S | Tebi      |
| S     | ^3        | S | Tera      |
| T     | units     | S | Yobi      |
| S     | A         | S | Yocto     |
| S     | B         | S | Yotta     |

|                      |                 |
|----------------------|-----------------|
| S Zebi               | S Fahrenheit    |
| S Zepto              | S Farad         |
| S Zetta              | S Foot          |
| T suffixes           | S Gal           |
| S Cubic              | S Gauss         |
| S ICubic             | S Gon           |
| S ILinear            | S Grad          |
| S ISquare            | S Gram          |
| S Inverse            | S Gray          |
| S Linear             | S Hectare       |
| S Square             | S Henry         |
| T symbols            | S Hertz         |
| S %                  | S Hg            |
| S ArcMinute          | S Hour          |
| S ArcSecond          | S Inch          |
| S Degree             | S Joule         |
| S Degrees            | S Katal         |
| S Percent            | S Kelvin        |
| S Per mille          | S Knot          |
| S Promille           | S Liter         |
| S °                  | S Litre         |
| S                    | S Lumen         |
| S                    | S Lux           |
| T units              | S Maxwell       |
| S AMU                | S Meter         |
| S Ampere             | S Metre         |
| S Angstrom           | S Metric Ton    |
| S Astronomical Unit  | S Minute        |
| S Atm                | S Mol           |
| S Atmosphere         | S Mole          |
| S Atomic Mass Unit   | S Nautical Mile |
| S Bar                | S Neper         |
| S Barn               | S Newton        |
| S Baud               | S Oersted       |
| S Bel                | S Ohm           |
| S Bequerel           | S Pascal        |
| S Bit                | S Phot          |
| S Byte               | S Poise         |
| S Cal                | S Radian        |
| S Calorie            | S Rev           |
| S Candela            | S Revolution    |
| S Celsius            | S Second        |
| S Coulomb            | S Siemens       |
| S Dalton             | S Sievert       |
| S Day                | S Steradian     |
| S Degree Celsius     | S Stilb         |
| S Degree Fahrenheit  | S Stokes        |
| S Degrees Celsius    | S Tesla         |
| S Degrees Fahrenheit | S Tonne         |
| S Dyne               | S Volt          |
| S Electron Volt      | S Watt          |
| S Erg                | S Weber         |
| S Erlang             | S eV            |

## profiler (extra lua)

`pause`    `function`  
`resume`   `function`

`start`    `function`  
`stop`     `function`

# regimes (context)

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



# resolvers (context)

|                                     |            |                                |            |
|-------------------------------------|------------|--------------------------------|------------|
| <b>allprefixes</b>                  | function   | <b>getownpath</b>              | function   |
| <b>appendhash</b>                   | function   | <b>getreadfilename</b>         | function   |
| <b>automount</b>                    | function   | <b>hashers</b>                 | data table |
| <b>automounted</b>                  | table      | <b>homedir</b>                 | string     |
| <b>booleanvariable</b>              | function   | <b>installinputfilehandler</b> | function   |
| <b>cacheversion</b>                 | string     | <b>installinputlinehandler</b> | function   |
| <b>checkedvariable</b>              | function   | <b>instance</b>                | table      |
| <b>cleanpath</b>                    | function   | D data                         |            |
| <b>cleanpathlist</b>                | function   | B diskcache                    |            |
| <b>concatinators</b>                | data table | D environment                  |            |
| <b>configbanner</b>                 | string     | D expansions                   |            |
| <b>criticalvars</b>                 | data table | D fakepaths                    |            |
| <b>dangerous</b>                    | data table | D files                        |            |
| <b>datastate</b>                    | function   | B force_suffixes               |            |
| <b>defaultsuffixes</b>              | table      | D found                        |            |
| <b>dowithfilesandreport</b>         | function   | D foundintrees                 |            |
| <b>dowithfilesintree</b>            | function   | D hashed                       |            |
| <b>dowithpath</b>                   | function   | D hashes                       |            |
| <b>dowithvariable</b>               | function   | D lists                        |            |
| <b>env</b>                          | function   | B loadererror                  |            |
| <b>executers</b>                    | table      | D order                        |            |
| F check                             |            | B remember                     |            |
| F execute                           |            | B renewcache                   |            |
| F finalize                          |            | B renewtree                    |            |
| F register                          |            | B savelists                    |            |
| <b>expandbraces</b>                 | function   | D setups                       |            |
| <b>expandedpathfromlist</b>         | function   | D specification                |            |
| <b>expandedpathlist</b>             | function   | D variables                    |            |
| <b>expandedpathlistfromvariable</b> | function   | <b>jobs</b>                    | table      |
| <b>expandpath</b>                   | function   | F currentcomponent             |            |
| <b>expandpathfromvariable</b>       | function   | F currentenvironment           |            |
| <b>expansion</b>                    | function   | F currentproduct               |            |
| <b>extendtexmfvariable</b>          | function   | F currentproject               |            |
| <b>find_file</b>                    | function   | F justacomponent               |            |
| <b>find_files</b>                   | function   | D processors                   |            |
| <b>findbinfile</b>                  | function   | F productcomponent             |            |
| <b>findctxfile</b>                  | function   | F usefile                      |            |
| <b>finders</b>                      | data table | <b>joinpath</b>                | function   |
| <b>findfile</b>                     | function   | <b>load</b>                    | function   |
| <b>findfiles</b>                    | function   | <b>loadbinfile</b>             | function   |
| <b>findgivenfile</b>                | function   | <b>loaders</b>                 | data table |
| <b>findgivenfiles</b>               | function   | <b>loadlualib</b>              | function   |
| <b>findpath</b>                     | function   | <b>loadtexfile</b>             | function   |
| <b>findtexfile</b>                  | function   | <b>loadtime</b>                | function   |
| <b>findwildcardfile</b>             | function   | <b>locateformat</b>            | function   |
| <b>findwildcardfiles</b>            | function   | <b>locators</b>                | data table |
| <b>formatofsuffix</b>               | function   | <b>luacnfname</b>              | string     |
| <b>formatofvariable</b>             | function   | <b>luacnfspec</b>              | string     |
| <b>formats</b>                      | data table | <b>luacnfstate</b>             | string     |
| <b>generators</b>                   | data table | <b>macros</b>                  | table      |
| <b>getenv</b>                       | function   | F convertfile                  |            |

|                   |            |                          |            |
|-------------------|------------|--------------------------|------------|
| F decodecomment   |            | schemes                  | table      |
| F enablecomment   |            | T cleaners               |            |
| F encodecomment   |            | F md5                    |            |
| F preprocessed    |            | F none                   |            |
| F processmkvi     |            | F strip                  |            |
| F version         |            | F cleanname              |            |
| maxreadlevel      | number     | F install                |            |
| methodhandler     | function   | N threshold              |            |
| newinstance       | function   | setenv                   | function   |
| openbinfile       | function   | setinstance              | function   |
| openers           | data table | settrace                 | function   |
| openfile          | function   | showpath                 | function   |
| opentextfile      | function   | simplescanfiles          | function   |
| ownpath           | string     | splitconfigurationpath   | function   |
| prefixes          | data table | splitexpansions          | function   |
| prependhash       | function   | splitmethod              | function   |
| registerextrapath | function   | splitpath                | function   |
| registerfile      | function   | suffixes                 | data table |
| registerfilehash  | function   | suffixmap                | data table |
| registerintrees   | function   | suffixofformat           | function   |
| registermethod    | function   | texdatablob              | function   |
| registerzipfile   | function   | unexpandedpath           | function   |
| relations         | data table | unexpandedpathlist       | function   |
| renew             | function   | unresolve                | function   |
| repath            | function   | updaterelations          | function   |
| reset             | function   | updatescript             | function   |
| resetextrapath    | function   | usezipfile               | function   |
| resetresolve      | function   | validatedpath            | function   |
| resolve           | function   | variable                 | function   |
| savers            | data table | variableofformat         | function   |
| scandata          | function   | variableofformatorsuffix | function   |
| scanfiles         | function   | wildcardpattern          | function   |

# scripts (context)

|                               |            |                               |            |
|-------------------------------|------------|-------------------------------|------------|
| <code>categorytonumber</code> | data table | <code>numbertocategory</code> | data table |
| <code>colors</code>           | data table | <code>numbertodataset</code>  | data table |
| <code>handlers</code>         | data table | <code>preprocess</code>       | function   |
| <code>hash</code>             | table      | <code>reset</code>            | function   |
| <code>installdataset</code>   | function   | <code>set</code>              | function   |
| <code>installmethod</code>    | function   |                               |            |

# set (context)

|          |          |          |          |
|----------|----------|----------|----------|
| contains | function | tonumber | function |
| create   | function | totable  | function |
| tolist   | function |          |          |

# socket (extra lua)

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

# sorters (context)

|                     |       |                     |            |
|---------------------|-------|---------------------|------------|
| <b>comparers</b>    | table | <b>definitions</b>  | data table |
| F basic             |       | <b>firstofsplit</b> | function   |
| <b>constants</b>    | table | <b>setlanguage</b>  | function   |
| S defaultdigits     |       | <b>sort</b>         | function   |
| S defaultlanguage   |       | <b>splitters</b>    | table      |
| S defaultmethod     |       | F utf               |            |
| N digitmaximum      |       | <b>strip</b>        | function   |
| N digitoffset       |       | <b>tracers</b>      | data table |
| N ignoredoffset     |       | <b>update</b>       | function   |
| N replacementoffset |       |                     |            |

## statistics (context)

|                             |          |
|-----------------------------|----------|
| <code>checkfmtstatus</code> | function |
| <code>elapsedindeed</code>  | function |
| <code>elapsedseconds</code> | function |
| <code>elapsedtime</code>    | function |
| <code>enable</code>         | boolean  |
| <code>formatruntime</code>  | function |
| <code>hastiming</code>      | function |
| <code>memused</code>        | function |
| <code>register</code>       | function |
| <code>reportstorage</code>  | function |

|                            |          |
|----------------------------|----------|
| <code>resettiming</code>   | function |
| <code>runtime</code>       | function |
| <code>savefmtstatus</code> | function |
| <code>show</code>          | function |
| <code>showjobstat</code>   | function |
| <code>starttiming</code>   | function |
| <code>stoptiming</code>    | function |
| <code>threshold</code>     | number   |
| <code>timed</code>         | function |

status (basic tex)

list function



# storage (context)

|            |          |            |            |
|------------|----------|------------|------------|
| allocate   | function | min        | number     |
| data       | table    | nofmodules | number     |
| evaluators | table    | noftables  | number     |
| mark       | function | register   | function   |
| marked     | function | shared     | data table |
| max        | number   |            |            |

## streams (context)

|                         |          |
|-------------------------|----------|
| <code>collect</code>    | function |
| <code>disable</code>    | function |
| <code>enable</code>     | function |
| <code>flush</code>      | function |
| <code>initialize</code> | function |

|                          |          |
|--------------------------|----------|
| <code>push</code>        | function |
| <code>start</code>       | function |
| <code>stop</code>        | function |
| <code>synchronize</code> | function |

## string (basic lua)

|                       |          |                      |          |
|-----------------------|----------|----------------------|----------|
| <b>byte</b>           | function | <b>match</b>         | function |
| <b>bytepairs</b>      | function | <b>quote</b>         | function |
| <b>bytes</b>          | function | <b>quoted</b>        | function |
| <b>char</b>           | function | <b>rep</b>           | function |
| <b>characterpairs</b> | function | <b>reverse</b>       | function |
| <b>characters</b>     | function | <b>split</b>         | function |
| <b>checkedsplit</b>   | function | <b>splitlines</b>    | function |
| <b>count</b>          | function | <b>splitup</b>       | function |
| <b>dump</b>           | function | <b>strip</b>         | function |
| <b>escapedpattern</b> | function | <b>sub</b>           | function |
| <b>explode</b>        | function | <b>toboolean</b>     | function |
| <b>find</b>           | function | <b>tocontext</b>     | function |
| <b>format</b>         | function | <b>todimen</b>       | function |
| <b>gfind</b>          | function | <b>topattern</b>     | function |
| <b>gmatch</b>         | function | <b>toutf</b>         | function |
| <b>gsub</b>           | function | <b>unquote</b>       | function |
| <b>is_boolean</b>     | function | <b>unquoted</b>      | function |
| <b>is_empty</b>       | function | <b>upper</b>         | function |
| <b>len</b>            | function | <b>utfcharacters</b> | function |
| <b>limit</b>          | function | <b>utfsplitlines</b> | function |
| <b>lower</b>          | function | <b>utfvalues</b>     | function |

# structures (context)

|             |          |                      |          |
|-------------|----------|----------------------|----------|
| atlocation  | function | F value              |          |
| blocks      | table    | currentsectionnumber | function |
| D collected |          | descriptions         | table    |
| F define    |          | documents            | table    |
| F print     |          | T data               |          |
| F save      |          | S block              |          |
| F select    |          | T blocks             |          |
| F setstate  |          | T checkers           |          |
| D states    |          | N depth              |          |
| D tobesaved |          | T forced             |          |
| bookmarks   | table    | T numbers            |          |
| F finalize  |          | T ownnumbers         |          |
| F flatten   |          | T status             |          |
| S method    |          | F initialize         |          |
| F overload  |          | F preset             |          |
| F place     |          | F reset              |          |
| F register  |          | floats               | table    |
| F setup     |          | formulas             | table    |
| counters    | table    | F current            |          |
| F add       |          | F simplify           |          |
| F analyze   |          | F store              |          |
| F check     |          | helpers              | table    |
| D collected |          | F analyze            |          |
| F compact   |          | F formulanumber      |          |
| F converted |          | F merged             |          |
| F current   |          | F page               |          |
| D data      |          | F prefix             |          |
| F define    |          | F prefixlastpage     |          |
| F first     |          | F prefixpage         |          |
| F get       |          | F simplify           |          |
| F last      |          | F title              |          |
| F next      |          | F touserdata         |          |
| F prev      |          | itemgroups           | table    |
| F previous  |          | F maxwidth           |          |
| F raw       |          | F nofitems           |          |
| F record    |          | F register           |          |
| F reset     |          | lists                | table    |
| F restart   |          | F addto              |          |
| F restore   |          | F analyze            |          |
| F save      |          | D cached             |          |
| F set       |          | D collected          |          |
| F setlevel  |          | F discard            |          |
| F setoffset |          | F enhance            |          |
| F setown    |          | T enhancers          |          |
| F setstate  |          | F filter             |          |
| F setvalue  |          | F filtercollected    |          |
| F show      |          | F formulanumber      |          |
| T specials  |          | F hasnumberdata      |          |
| F userpage  |          | F haspagedata        |          |
| F subs      |          | F hastitledata       |          |
| D tobesaved |          | D internals          |          |

|                            |              |
|----------------------------|--------------|
| F iscached                 |              |
| F label                    |              |
| F location                 |              |
| F number                   |              |
| D ordered                  |              |
| F page                     |              |
| F popnesting               |              |
| F prefix                   |              |
| F prefixednumber           |              |
| F prefixedpage             |              |
| F process                  |              |
| D pushed                   |              |
| F pushnesting              |              |
| F realpage                 |              |
| T result                   |              |
| F sectionnumber            |              |
| F size                     |              |
| F title                    |              |
| D tobesaved                |              |
| F userdata                 |              |
| F uservalue                |              |
| <b>marks</b>               | <b>table</b> |
| D data                     |              |
| F define                   |              |
| F exists                   |              |
| F fetch                    |              |
| F fetchallmarks            |              |
| F fetched                  |              |
| F fetchonemark             |              |
| F fetchtwomarks            |              |
| F get                      |              |
| F number                   |              |
| F relate                   |              |
| F reset                    |              |
| F set                      |              |
| F show                     |              |
| F synchronize              |              |
| F title                    |              |
| T tracers                  |              |
| F showtable                |              |
| <b>notes</b>               | <b>table</b> |
| F checkpagechange          |              |
| F define                   |              |
| F deltapage                |              |
| F doifcontent              |              |
| F doifonsamepageasprevious |              |
| F flush                    |              |
| F flushpostponed           |              |
| F get                      |              |
| F getn                     |              |
| F getnumberpage            |              |
| F getstate                 |              |
| F getsymbolpage            |              |
| F internal                 |              |

|                        |              |
|------------------------|--------------|
| F internalid           |              |
| F listindex            |              |
| F ordered              |              |
| F postpone             |              |
| F resetpostponed       |              |
| F restore              |              |
| F save                 |              |
| F setstate             |              |
| F setsymbolpage        |              |
| D states               |              |
| F store                |              |
| <b>pages</b>           | <b>table</b> |
| F analyze              |              |
| D collected            |              |
| F is_odd               |              |
| F number               |              |
| F save                 |              |
| D tobesaved            |              |
| <b>references</b>      | <b>table</b> |
| F analyze              |              |
| F checkedfile          |              |
| F checkedfileorurl     |              |
| F checkedprogram       |              |
| F checkedrealpage      |              |
| F checkedurl           |              |
| D collected            |              |
| U componentsplitter    |              |
| F currentmetadata      |              |
| F currentorder         |              |
| D currentset           |              |
| F define               |              |
| D defined              |              |
| D derived              |              |
| F doifelse             |              |
| F enableinteraction    |              |
| F enhance              |              |
| D executers            |              |
| F expandcurrent        |              |
| F export               |              |
| T files                |              |
| T data                 |              |
| F define               |              |
| F get                  |              |
| F filter               |              |
| D filters              |              |
| F from                 |              |
| F get                  |              |
| F getcurrentmetadata   |              |
| F getcurrentprefixspec |              |
| F getinnermethod       |              |
| F getinternalreference |              |
| D handlers             |              |
| F identify             |              |
| F import               |              |

- F inject
- F injectcurrentset
- D internals
- F load
- F loadpresets
- F mark
- D pages
- U prefixsplitter
- T productdata
  - T componentreferences
  - T components
  - T productreferences
- T programs
  - T data
  - F define
  - F get
- F realpageofpage
- U referencesplitter
- D referred
- F referredpage
- F registerfinalizer
- F registerinitializer
- F registerpage
- F reportproblems
- F reset
- T resolvers
  - F reference
  - F section
- D runners
- F set
- F setandgetattribute
- F setcomponent
- F setinnermethod
- F setinternalreference
- F setnextinternal
- F setnextorder
- D specials
- F splitcomponent
- F splitprefix
- F splitreference
- T testrunners
  - F inner
  - F special
  - F special operation
  - F special operation with arguments
- T testspecials
  - F deltapage
  - F i
  - F internal
  - F page
  - F realpage
  - F section
  - F userpage
- D tobereferred

- D tobesaved
- T urls
  - T data
  - F define
  - F get
  - F whatfrom
- registers** table
  - F analyze
  - F analyzed
  - D collected
  - F compare
  - F define
  - F enhance
  - F extend
  - F filter
  - F filtercollected
  - F finalize
  - F flush
  - F prepare
  - F process
  - F sort
  - F store
  - D tobesaved
  - F unique
  - F userdata
- sections** table
  - F autodepth
  - F cct
  - T collected
  - F current
  - F currentblock
  - F currentid
  - F currentlevel
  - F defineautolevels
  - F depthnumber
  - F finddata
  - F findnumber
  - F fullnumber
  - F getcurrentlevel
  - F getlevel
  - F getnumber
  - F internalreference
  - D levelmap
  - D levels
  - F load
  - F matchingtilldepth
  - F numberatdepth
  - F numbers
  - F popblock
  - F prefixedconverted
  - F pushblock
  - F register
  - D registered
  - F reportstructure

|                  |              |                        |              |
|------------------|--------------|------------------------|--------------|
| F save           |              | F process              |              |
| F set            |              | F register             |              |
| F setblock       |              | F registerused         |              |
| F setchecker     |              | F sort                 |              |
| F setlevel       |              | F synonym              |              |
| F setnumber      |              | D tobesaved            |              |
| F somelevel      |              | <b>tags</b>            | <b>table</b> |
| F startautolevel |              | T data                 |              |
| F stopautolevel  |              | F detailedtag          |              |
| F structuredata  |              | F getid                |              |
| F title          |              | F handler              |              |
| D tobesaved      |              | D labels               |              |
| F typesetnumber  |              | F last                 |              |
| F userdata       |              | F lastinchain          |              |
| B verbose        |              | T metadata             |              |
| F way            |              | D properties           |              |
| <b>sets</b>      | <b>table</b> | F registerdata         |              |
| F define         |              | F registermetadata     |              |
| F get            |              | F restart              |              |
| F getall         |              | F setattributehash     |              |
| D setlist        |              | F setcombination       |              |
| <b>specials</b>  | <b>table</b> | F setdescription       |              |
| D collected      |              | F setdescriptionsymbol |              |
| F retrieve       |              | F setfigure            |              |
| F store          |              | F sethighlight         |              |
| D tobesaved      |              | F setitemgroup         |              |
| <b>synonyms</b>  | <b>table</b> | F setproperty          |              |
| F analyzed       |              | F setsorting           |              |
| D collected      |              | F setsynonym           |              |
| F compare        |              | F settablecell         |              |
| F define         |              | F settabulatecell      |              |
| F filter         |              | F start                |              |
| F finalize       |              | F stop                 |              |
| F flush          |              | D taglist              |              |
| F meaning        |              | T userdata             |              |
| F prepare        |              |                        |              |

## table (basic lua)

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



## tex (basic tex)

|                         |            |                       |            |
|-------------------------|------------|-----------------------|------------|
| <b>attribute</b>        | table      | <b>number</b>         | function   |
| <b>badness</b>          | function   | <b>pdffontname</b>    | function   |
| <b>box</b>              | table      | <b>pdffontobjnum</b>  | function   |
| <b>catcode</b>          | table      | <b>pdffontsize</b>    | function   |
| <b>conditionals</b>     | data table | <b>pdfpageref</b>     | function   |
| <b>constants</b>        | data table | <b>pdfxformname</b>   | function   |
| <b>count</b>            | table      | <b>primitives</b>     | function   |
| <b>ctxcatcodes</b>      | number     | <b>print</b>          | function   |
| <b>definefont</b>       | function   | <b>printlist</b>      | function   |
| <b>delcode</b>          | table      | <b>prtcatcodes</b>    | number     |
| <b>dimen</b>            | table      | <b>romannumeral</b>   | function   |
| <b>enableprimitives</b> | function   | <b>round</b>          | function   |
| <b>error</b>            | function   | <b>run</b>            | function   |
| <b>extraprimitives</b>  | function   | <b>scale</b>          | function   |
| <b>finish</b>           | function   | <b>set</b>            | function   |
| <b>fontidentifier</b>   | function   | <b>setattribute</b>   | function   |
| <b>fontname</b>         | function   | <b>setbox</b>         | function   |
| <b>fprint</b>           | function   | <b>setcatcode</b>     | function   |
| <b>get</b>              | function   | <b>setcount</b>       | function   |
| <b>getattribute</b>     | function   | <b>setdelcode</b>     | function   |
| <b>getbox</b>           | function   | <b>setdimen</b>       | function   |
| <b>getcatcode</b>       | function   | <b>setfalse</b>       | function   |
| <b>getcount</b>         | function   | <b>setlccode</b>      | function   |
| <b>getdelcode</b>       | function   | <b>setlist</b>        | function   |
| <b>getdimen</b>         | function   | <b>setmath</b>        | function   |
| <b>getlccode</b>        | function   | <b>setmathcode</b>    | function   |
| <b>getlist</b>          | function   | <b>setnest</b>        | function   |
| <b>getmath</b>          | function   | <b>setsfcode</b>      | function   |
| <b>getmathcode</b>      | function   | <b>setskip</b>        | function   |
| <b>getnest</b>          | function   | <b>settoks</b>        | function   |
| <b>getsfcode</b>        | function   | <b>settrue</b>        | function   |
| <b>getskip</b>          | function   | <b>setuccode</b>      | function   |
| <b>gettoks</b>          | function   | <b>sfcode</b>         | table      |
| <b>getuccode</b>        | function   | <b>shipout</b>        | function   |
| <b>hashtokens</b>       | function   | <b>skip</b>           | table      |
| <b>ifs</b>              | data table | <b>sp</b>             | function   |
| <b>inimatcodes</b>      | number     | <b>sprint</b>         | function   |
| <b>iscount</b>          | function   | <b>systemmodes</b>    | data table |
| <b>isdimen</b>          | function   | <b>texcatcodes</b>    | number     |
| <b>isskip</b>           | function   | <b>toks</b>           | table      |
| <b>istoken</b>          | function   | <b>tpacatcodes</b>    | number     |
| <b>lccode</b>           | table      | <b>tpbcatcodes</b>    | number     |
| <b>linebreak</b>        | function   | <b>tprint</b>         | function   |
| <b>lists</b>            | table      | <b>txtcatcodes</b>    | number     |
| <b>luacatcodes</b>      | number     | <b>type</b>           | function   |
| <b>mathcode</b>         | table      | <b>uccode</b>         | table      |
| <b>modes</b>            | data table | <b>uniformdeviate</b> | function   |
| <b>nest</b>             | table      | <b>uprint</b>         | function   |
| <b>nilcatcodes</b>      | number     | <b>vrbcacodes</b>     | number     |
| <b>notcatcodes</b>      | number     | <b>write</b>          | function   |

## texconfig (basic tex)

|                              |          |                             |        |
|------------------------------|----------|-----------------------------|--------|
| <code>error_line</code>      | number   | <code>max_print_line</code> | number |
| <code>expand_depth</code>    | number   | <code>max_strings</code>    | number |
| <code>formatname</code>      | string   | <code>nest_size</code>      | number |
| <code>half_error_line</code> | number   | <code>param_size</code>     | number |
| <code>hash_extra</code>      | number   | <code>save_size</code>      | number |
| <code>init</code>            | function | <code>shell_escape</code>   | string |
| <code>kpse_init</code>       | boolean  | <code>stack_size</code>     | number |
| <code>max_in_open</code>     | number   |                             |        |

## texio (basic tex)

```
write      function  
write_nl   function
```

# token (basic tex)

|              |          |               |          |
|--------------|----------|---------------|----------|
| command_id   | function | get_next      | function |
| command_name | function | is_activechar | function |
| create       | function | is_expandable | function |
| csname_id    | function | is_protected  | function |
| csname_name  | function | lookup        | function |
| expand       | function |               |          |

# tokens (context)

|                   |                |  |                |                |  |
|-------------------|----------------|--|----------------|----------------|--|
| <b>bgroup</b>     | table          |  |                | T show_methods |  |
| <b>collectors</b> | table          |  |                | F a            |  |
|                   | T data         |  |                | F b            |  |
|                   | F defaultwords |  |                | F c            |  |
|                   | F dowithwords  |  |                | F showtoken    |  |
|                   | F flush        |  |                | F test         |  |
|                   | F handle       |  |                | F trace        |  |
|                   | F install      |  | <b>egroup</b>  | table          |  |
|                   | F register     |  | <b>hbox</b>    | table          |  |
|                   | T registered   |  | <b>letter</b>  | function       |  |
|                   | T remapper     |  | <b>letters</b> | function       |  |
|                   | F convert      |  | <b>other</b>   | function       |  |
|                   | T data         |  | <b>vbox</b>    | table          |  |
|                   | F store        |  | <b>vtop</b>    | table          |  |
|                   | F show         |  |                |                |  |

# tracers (context)

|             |          |             |          |
|-------------|----------|-------------|----------|
| count       | function | name        | function |
| cs          | function | primitive   | function |
| dimen       | function | prnterror   | function |
| knownlist   | function | showlines   | function |
| lists       | table    | strings     | table    |
| T context   |          | S undefined |          |
| T internals |          | toks        | function |
| T scratch   |          | type        | function |

# trackers (context)

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

# typesetters (context)

**alignments** table

F handler

F set

**breakpoints** table

N attribute

F define

F handler

D mapping

T methods

T numbers

F set

F setreplacement

**cases** table

T actions

F handler

F set

**characters** table

F handler

**cleaners** table

F handler

F set

**digits** table

T actions

N attribute

F handler

F set

**directions** table

F handler

F process

F set

**hpack** function

**italics** table

F forcevariant

F handler

F reset

F set

**kerns** table

D factors

F handler

B keepligature

B keptogether

D mapping

F set

**margins** table

F finalhandler

F globalhandler

F ha

F localhandler

F save

**paragraphs** table

N attribute

T droppers

F freeze

F set

F handler

F set

**processors** table

F apply

F register

F reset

F split

F startapply

F stopapply

F stripped

F tostring

**spacings** table

N attribute

F define

F handler

D mapping

T numbers

T frenchpunctuation

T characters

S name

N number

F reset

F set

F setup

**tonodes** function

**vpack** function

**xtables** table

F cleanup

F construct

F create

F flush

F initialize\_construct

F initialize\_reflow\_height

F initialize\_reflow\_width

F next\_row

F reflow\_height

F reflow\_width

F set\_construct

F set\_reflow\_height

F set\_reflow\_width



# unicode (extra lua)

|                 |              |  |                  |          |
|-----------------|--------------|--|------------------|----------|
| <b>ascii</b>    | <b>table</b> |  | F gmatch         |          |
| F byte          |              |  | F gsub           |          |
| F char          |              |  | F len            |          |
| F dump          |              |  | F lower          |          |
| F find          |              |  | F match          |          |
| F format        |              |  | F rep            |          |
| F gfind         |              |  | F reverse        |          |
| F gmatch        |              |  | F sub            |          |
| F gsub          |              |  | F upper          |          |
| F len           |              |  | <b>ustring</b>   | function |
| F lower         |              |  | utf16_to_utf8    | function |
| F match         |              |  | utf16_to_utf8_be | function |
| F rep           |              |  | utf16_to_utf8_le | function |
| F reverse       |              |  | utf32_to_utf8    | function |
| F sub           |              |  | utf32_to_utf8_be | function |
| F upper         |              |  | utf32_to_utf8_le | function |
| <b>filetype</b> | function     |  | <b>utf8</b>      | table    |
| <b>grapheme</b> | <b>table</b> |  | F byte           |          |
| F byte          |              |  | F char           |          |
| F char          |              |  | F dump           |          |
| F dump          |              |  | F find           |          |
| F find          |              |  | F format         |          |
| F format        |              |  | F gfind          |          |
| F gfind         |              |  | F gmatch         |          |
| F gmatch        |              |  | F gsub           |          |
| F gsub          |              |  | F len            |          |
| F len           |              |  | F lower          |          |
| F lower         |              |  | F match          |          |
| F match         |              |  | F rep            |          |
| F rep           |              |  | F reverse        |          |
| F reverse       |              |  | F string         |          |
| F sub           |              |  | F sub            |          |
| F upper         |              |  | F toentities     |          |
| <b>latin1</b>   | <b>table</b> |  | F upper          |          |
| F byte          |              |  | utf8_to_utf16    | function |
| F char          |              |  | utf8_to_utf8     | function |
| F dump          |              |  | utfcodes         | function |
| F find          |              |  | utfname          | table    |
| F format        |              |  | utftype          | function |
| F gfind         |              |  | xstring          | function |

# url (context)

|                        |                       |                        |                       |
|------------------------|-----------------------|------------------------|-----------------------|
| <code>addscheme</code> | <code>function</code> | <code>hasscheme</code> | <code>function</code> |
| <code>construct</code> | <code>function</code> | <code>query</code>     | <code>function</code> |
| <code>filename</code>  | <code>function</code> | <code>split</code>     | <code>function</code> |
| <code>hashed</code>    | <code>function</code> |                        |                       |

# utilities (context)

|                                 |          |                     |                 |
|---------------------------------|----------|---------------------|-----------------|
| <b>debugger</b>                 | table    |                     |                 |
| F disable                       |          |                     | F appendgroup   |
| F enable                        |          |                     | F compile       |
| F savestats                     |          |                     | F disableaction |
| F showstats                     |          |                     | F disablegroup  |
| <b>formatters</b>               | table    |                     | F enableaction  |
| F formatcolumns                 |          |                     | F enablegroup   |
| F list                          |          |                     | D functions     |
| F stripzeros                    |          |                     | F localize      |
| <b>garbagecollector</b>         | table    |                     | F new           |
| F check                         |          |                     | F nodeprocessor |
| N criterium                     |          |                     | F prependaction |
| B enabled                       |          |                     | F prependgroup  |
| <b>lua</b>                      | table    |                     | F removeaction  |
| F compile                       |          |                     | F setkind       |
| <b>packers</b>                  | table    |                     | F tostring      |
| F hashed                        |          | <b>setters</b>      | table           |
| F new                           |          | F disable           |                 |
| F pack                          |          | F enable            |                 |
| F simplehashed                  |          | F initialize        |                 |
| F strip                         |          | F list              |                 |
| F unpack                        |          | F new               |                 |
| N version                       |          | F register          |                 |
| <b>parsers</b>                  | table    | F reset             |                 |
| F add_settings_to_array         |          | F show              |                 |
| F arguments_to_table            |          | <b>storage</b>      | table           |
| F array_to_string               |          | F allocate          |                 |
| F getparameters                 |          | F checked           |                 |
| F hash_to_string                |          | F mark              |                 |
| F listitem                      |          | F marked            |                 |
| F make_settings_to_hash_pattern |          | F setinitializer    |                 |
| T patterns                      |          | F sparse            |                 |
| U settings_to_array             |          | <b>strings</b>      | table           |
| U settings_to_hash_a            |          | F collapseCrLf      |                 |
| U settings_to_hash_b            |          | F newrepeater       |                 |
| U settings_to_hash_c            |          | F nice              |                 |
| F settings_to_array             |          | F striplong         |                 |
| F settings_to_hash              |          | F tabtospace        |                 |
| F settings_to_hash_strict       |          | <b>tables</b>       | table           |
| F settings_to_hash_tolerant     |          | F accesstable       |                 |
| F settings_to_set               |          | F definetable       |                 |
| F simple_hash_to_string         |          | F encapsulate       |                 |
| <b>report</b>                   | function | F insertaftervalue  |                 |
| <b>sequencers</b>               | table    | F insertbeforevalue |                 |
| F appendaction                  |          | F migratetable      |                 |
|                                 |          | F removevalue       |                 |

## 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)

|                           |          |                     |            |
|---------------------------|----------|---------------------|------------|
| <b>addentitiesdoctype</b> | function | <b>entities</b>     | data table |
| <b>after</b>              | function | <b>erase</b>        | function   |
| <b>all</b>                | function | <b>errorhandler</b> | function   |
| <b>applylpath</b>         | function | <b>escaped</b>      | function   |
| <b>assign</b>             | function | <b>expressions</b>  | table      |
| <b>attribute</b>          | function | F boolean           |            |
| <b>before</b>             | function | F child             |            |
| <b>body</b>               | function | F contains          |            |
| <b>builtinentities</b>    | table    | F count             |            |
| B amp                     |          | F error             |            |
| B apos                    |          | F find              |            |
| B gt                      |          | F lower             |            |
| B lt                      |          | F name              |            |
| B quot                    |          | F number            |            |
| <b>cdata</b>              | function | F oneof             |            |
| <b>cdatatotext</b>        | function | F print             |            |
| <b>checkbom</b>           | function | F quit              |            |
| <b>checkerror</b>         | function | F tag               |            |
| <b>checknamespace</b>     | function | F text              |            |
| <b>checkns</b>            | function | F undefined         |            |
| <b>cleansed</b>           | function | F upper             |            |
| <b>collect</b>            | function | <b>fillin</b>       | function   |
| <b>collect_elements</b>   | function | <b>filter</b>       | function   |
| <b>collect_tags</b>       | function | <b>finalizers</b>   | table      |
| <b>collect_texts</b>      | function | T tex               |            |
| <b>collected</b>          | function | F all               |            |
| <b>collecttexts</b>       | function | F attribute         |            |
| <b>content</b>            | function | F bibtexconcat      |            |
| <b>convert</b>            | function | F bibtexshort       |            |
| <b>copy</b>               | function | F chainattribute    |            |
| <b>count</b>              | function | F command           |            |
| <b>cprint</b>             | function | F concat            |            |
| <b>css</b>                | table    | F concatrange       |            |
| F colorspecification      |          | F context           |            |
| F fontspecification       |          | F count             |            |
| F padding                 |          | F ctxtext           |            |
| <b>defaulthandlers</b>    | table    | F default           |            |
| D file                    |          | F first             |            |
| D parsedxml               |          | F function          |            |
| D string                  |          | F index             |            |
| D tex                     |          | F last              |            |
| D texline                 |          | F lettered          |            |
| D texspace                |          | F lower             |            |
| D verbose                 |          | F match             |            |
| <b>defaultprotocol</b>    | string   | F name              |            |
| <b>delete</b>             | function | F position          |            |
| <b>delete_element</b>     | function | F reverse           |            |
| <b>each</b>               | function | F stripped          |            |
| <b>each_element</b>       | function | F tag               |            |
| <b>elements</b>           | function | F tags              |            |
| <b>empty</b>              | function | F text              |            |

|                       |          |                      |          |
|-----------------------|----------|----------------------|----------|
| F upper               |          | lshow                | function |
| T xml                 |          | makestandalone       | function |
| F all                 |          | match                | function |
| F att                 |          | name                 | function |
| F attribute           |          | newhandlers          | function |
| F attributes          |          | nodesettostring      | function |
| F cdata               |          | originalload         | function |
| F chainattribute      |          | package              | function |
| F count               |          | parent               | function |
| F default             |          | parsedentitylpeg     | userdata |
| F elements            |          | pihandlers           | table    |
| F empty               |          | placeholders         | table    |
| F first               |          | F unknown_any_entity |          |
| F function            |          | F unknown_dec_entity |          |
| F index               |          | F unknown_hex_entity |          |
| F last                |          | position             | function |
| F match               |          | privatecodes         | table    |
| F name                |          | privatetoken         | function |
| F position            |          | process              | function |
| F reverse             |          | process_attributes   | function |
| F table               |          | process_elements     | function |
| F tag                 |          | processattributes    | function |
| F tags                |          | profiled             | table    |
| F text                |          | raw                  | function |
| F texts               |          | registerentity       | function |
| first                 | function | registerns           | function |
| found                 | function | remap_name           | function |
| functions             | table    | remap_namespace      | function |
| getbuffer             | function | remap_tag            | function |
| gethandlers           | function | remapname            | function |
| gethandlersfunction   | function | remapnamespace       | function |
| include               | function | remaptag             | function |
| index                 | function | renamespace          | function |
| inheritedconvert      | function | replace              | function |
| inject                | function | replace_element      | function |
| inject_element        | function | resolvns             | function |
| inject_element_after  | function | root                 | function |
| inject_element_before | function | save                 | function |
| injectafter           | function | selection            | function |
| injectbefore          | function | serialize            | function |
| insert                | function | setcdata             | function |
| insert_element        | function | sethandlersfunction  | function |
| insert_element_after  | function | setproperty          | function |
| insert_element_before | function | settings             | function |
| insertafter           | function | specialhandler       | table    |
| insertbefore          | function | sprint               | function |
| insertcomment         | function | string               | function |
| inspect               | function | strip                | function |
| is_valid              | function | strip_whitespace     | function |
| last                  | function | stripelement         | function |
| load                  | function | stripleadingspaces   | function |
| lpath                 | function | table                | function |
| lpathcached           | function | text                 | function |
| lpathcalls            | function | textonly             | function |

|                        |                       |                           |                       |
|------------------------|-----------------------|---------------------------|-----------------------|
| <code>tocdata</code>   | <code>function</code> | <code>unesaped</code>     | <code>function</code> |
| <code>toelement</code> | <code>function</code> | <code>unprivatized</code> | <code>function</code> |
| <code>tostring</code>  | <code>function</code> | <code>withelement</code>  | <code>function</code> |
| <code>toxml</code>     | <code>function</code> | <code>withelements</code> | <code>function</code> |
| <code>tprint</code>    | <code>function</code> | <code>wrap</code>         | <code>function</code> |
| <code>traverse</code>  | <code>function</code> | <code>xmlns</code>        | <code>table</code>    |

## zip (extra lua)

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



# zlib (extra lua)

|                          |                       |                            |                       |
|--------------------------|-----------------------|----------------------------|-----------------------|
| <code>adler32</code>     | <code>function</code> | <code>decompress</code>    | <code>function</code> |
| <code>compress</code>    | <code>function</code> | <code>decompressobj</code> | <code>function</code> |
| <code>compressobj</code> | <code>function</code> | <code>version</code>       | <code>function</code> |
| <code>crc32</code>       | <code>function</code> |                            |                       |