NAME

groff_opmode – control GNU roff “pen state”

DESCRIPTION

Primarily intended to support the operation of **pdfroff**(1), but also potentially useful in other, similar contexts, the **groff_opmode** supplementary macro package offers a mechanism for synchronization of the typesetter’s “pen-up” and “pen-down” states, as appropriate to particular phases of document production. In the case of **pdfroff**(1), it is used to suppress the output of the document body content, when processing the phase for production of a table of contents, (when this is output *following* processing of the body content), and vice-versa.

USAGE

Typically loaded from within **groff**(7) document source, or by another dependent macro package, using the **groff**(7) request:

.mso opmode.tmac

the **groff_opmode** macro package provides the **.OP** macro, which exhibits the invocation syntax:

.OP [<*output-phase*> . . .]

A call of the **.OP** macro should be placed at the beginning of any section of the **groff**(7) input file, for which the content is designated for processing in a different phase from that which has gone before; for example, when using the emulated classical table of contents relocation feature of **pdfroff**(7), the call:

```
.OP 2
```

would be placed at the beginning of the document body content, (normally the beginning of the input file), indicating that the following content should be output during **pdfroff**(7)’s document body processing phase, whereas the complementary call:

```
.OP 1
```

would be placed after the document body content, to prepare for output of the collected table of contents, in **pdfroff**(7)’s table of contents processing phase.

The behaviour of the **.OP** macro is determined according to the setting of the **PHASE** register, which is expected to have been set, usually as a command line assignment for an individual invocation of **groff**(1), depending on the particular phase of output file processing to which the invocation relates — **pdfroff**(1) sets it to *one* when initiating its table of contents output phase, and to *two* for its document body output phase. This behaviour may be described as follows:

- If the **PHASE** register is *not* defined, (as is the case during **pdfroff**(1)’s initial document analysis phase — which produces no physical output), **.OP** sets the **OPMODE** register to *one*, but has no effect on **groff**(7)’s “*pen state*”; this effectively indicates that **groff**(7) is expected to be operating in its default “*pen-down*” state, *without* actually enforcing this.
- When the **PHASE** register *is* defined, then each specified “<*output-phase*>” argument is compared, in turn, with **PHASE**, until one compares as equal, or no more remain; if an equal match is found, then the **OPMODE** register is set to *one*, and **groff**(7)’s “*pen-down*” state is activated; otherwise, when no equal match is found, the **OPMODE** register is set to *zero*, and **groff**(7)’s “*pen-up*” state is activated.
- If the **PHASE** register *is* defined, but no “<*output-phase*>” arguments have been specified, then the **OPMODE** register is *immediately* set to *one*, and **groff**(7)’s “*pen-down*” state is activated.

This provides a mechanism for tracking the anticipated **groff**(7) “pen state”, when performing multiple phase **groff**(1) document formatting, supporting modification of the formatter’s behaviour on the basis of the indicated “pen state”; for example, the **groff_pdfmark**(7) macros, and associated macro packages such as **groff_mspdf**(7), may use the information conveyed by **OPMODE** to suppress generation of *pdfmark* code, while processing document sections in which the “*pen-up*” state has been activated.

CONTROL REGISTERS

The following two numeric registers are associated with the operation of the **.OP** macro:

PHASE

Defined by **pdfroff**(1), this numeric register is assigned a value of *one*, when the processing objective is to produce a table of contents, and a value of *two*, for production of the document body content.

OPMODE

Assigned on execution of the **.OP** macro, this numeric register assumes a value of *zero*, when the typesetter is switched to its "*pen-up*" state, and a value of *one*, following a switch to the "*pen-down*" state.

When used in conjunction with the **groff_pdfmark**(7) macros, the **OPMODE** register is aliased to that package's **PDFOPMODE** register.

FILES

/usr/local/share/groff/site-tmac/opmode.tmac

Provides the implementation of the **.OP** macro.

CAVEATS

Assignment of the **PHASE** register lies firmly within the purview of whatever process is responsible for driving multiple phase **groff**(1) document formatting. It should neither be defined, nor reassigned within any document source file; doing so may result in undefined behaviour.

AUTHORS

The **groff_opmode** supplementary macro implementation is provided by the *groff-pdfmark* package, which was written by Keith Marshall <keith@address.hidden>; this was formerly distributed with *GNU roff* , but it is now independently maintained at, and distributed from Keith's *groff-pdfmark* project hosting web-site <https://savannah.nongnu.org/projects/groff-pdfmark/>, whence the latest version may *always* be obtained.

SEE ALSO

groff(1), **pdfroff**(1), **groff**(7), **groff_mspdf**(7), **groff_pdfmark**(7), **pdfroff**(7)

More comprehensive documentation on the use of **pdfroff**(1), (support of which is the primary function of **groff_opmode**), and of the *groff-pdfmark* macro suite in general, may be found, in PDF format, in the reference guide "*Portable Document Format Publishing with GNU Troff*", which has also been written by Keith Marshall; the most recently published version of this guide may be read online, by following the appropriate document reference link on the *groff-pdfmark* project hosting web-site <https://savannah.nongnu.org/projects/groff-pdfmark/>, whence a copy may also be downloaded.