

NAME

ctangle, cweave – translate CWEB to C and/or TeX

SYNOPSIS

ctangle [-bhp] [+s] *webfile* [.w] [*change*file [.ch]] [*output*file [.c]]

cweave [-befhpx] [+s] *webfile* [.w] [*change*file [.ch]] [*output*file [.tex]]

DESCRIPTION

The **ctangle** program converts a CWEB source document into a C program that may be compiled in the usual way. The output file includes #line specifications so that debugging can be done in terms of the CWEB source file.

The **cweave** program converts the same CWEB file into a TeX file that may be formatted and printed in the usual way. It takes appropriate care of typographic details like page layout and the use of indentation, italics, boldface, etc., and it supplies extensive cross-index information that it gathers automatically.

CWEB allows you to prepare a single document containing all the information that is needed both to produce a compilable C program and to produce a well-formatted document describing the program in as much detail as the writer may desire. The user of CWEB ought to be familiar with TeX as well as C.

The command line should have one, two, or three names on it. The first is taken as the CWEB file (and **.w** is added if there is no extension). If that file cannot be opened, the extension **.web** is tried instead. (But **.w** is recommended, since **.web** usually implies Pascal.) If there is a second name, it is a change file (and **.ch** is added if there is no extension). The change file overrides parts of the WEB file, as described in the documentation. If there is a third name, it overrides the default name of the output file, which is ordinarily the same as the name of the input file (but on the current directory) with the extension **.c** or **.tex**.

Options in the command line may be either turned off with **-** (if they are on by default) or turned on with **+** (if they are off by default). In fact, the options are processed from left to right, so a sequence like **-f +f** corresponds to **+f** (which is the default).

The **-b** option suppresses the banner line that normally appears on your terminal when **ctangle** or **cweave** begins. The **-h** option suppresses the happy message that normally appears if the processing was successful. The **-p** option suppresses progress reports (starred module numbers) as the processing takes place. If you say **-bhp**, you get nothing but error messages.

The **+s** option prints statistics about memory usage at the end of a run (assuming that the programs have been compiled with the **-DSTAT** switch).

There are three other options applicable to **cweave** only: **-f** means do not force a newline after every statement in the formatted output. **-e** inhibits the enclosure of C material formatted by *cweave* in brackets **\PB{...}**. Such brackets are normally inserted so that special hooks can be used by *cweb-latex* and similar programs. **-x** means omit the index and table of contents.

ENVIRONMENT

The environment variable **CWEBINPUTS** is used to search for the input files, or the system default if **CWEBINPUTS** is not set. See **tex(1)** for the details of the searching.

FILES

The location of the files mentioned below varies from system to system. Use the **kpsewhich** utility to find their locations.

cwebmac.tex

TeX macros used by cweave output.

cwebman.tex

The user manual.

SEE ALSO

Literate Programming

by D. E. Knuth.

Weaving a Program

by Wayne Sewell.

The CWEB System of Structured Documentation

by Donald E. Knuth and Silvio Levy (hardcopy version of cwebman.tex and the source code listings).

tex(1), **cc**(1).

AUTHORS

Don Knuth wrote WEB for TeX and Pascal. Silvio Levy designed and developed CWEB by adapting the WEB conventions to C and by recoding everything in CWEB. Knuth began using CWEB and made further refinements. Many other helpers are acknowledged in the CWEB manual.