NAME

stod − convert Fortran program from single-precision to double-precision

SYNOPSIS

stod [**−−?**] [**−−author**] [**−−copyright**] [**−−help**] [**−−version**] < infile >outfile

stod copies its standard input to standard output, converting Fortran single-precision constants, built-in functions, and type declarations to double precision.

Floating-point FORMAT specifications are left intact; on some ancient systems, they may require modifications. They do *not* under the rules of Fortran 77.

Leading tabs are correctly interpreted according to common extended Fortran rules.

stod recognizes all of the standard Fortran 77 single- and double-precision functions, as well as the pair **rand/drand** (UNIX pseudo-random number generators), and the pair **r1mach/d1mach** from the PORT library framework.

stod's other purpose is to demonstrate a modest **lex**(1) program.

OPTIONS

Options can be prefixed with either one or two hyphens, and can be abbreviated to any unique prefix. Thus, **−v**, **−ver**, and **−−version** are equivalent.

All options in this program are diagnostic, and suppress processing of the input stream. Execution terminates with a success return code after processing one or more options, but unrecognized options cause immediate termination with a failure return code.

−−? Same as **−−help**.

−−author Display a brief author credit on *stdout*.

−−copyright Display copyright and license information on *stdout*.

−−help Display a brief help message on *stdout*, giving a usage description.

−−version Display the program version number and release date on *stdout*.

BUGS

Undeclared variables are not type-converted. To find such instances, use the Extended PFORT Verifier, **pfort**(1), or the Fortran checker, **ftnchek**(1). Some UNIX Fortran compilers have a compile-time option, usually called $-u$, to flag undeclared variables.

Text beyond column 72 is discarded when lines are collected into Fortran statements.

stod does not handle embedded ASCII tab characters correctly when long lines are to be broken. A Fortran-sensitive detabbing utility should be applied first if the input file possibly contains embedded tabs. Note that **expand**(1) *cannot* be used to do this job correctly!

Mixed-precision code may not be converted correctly. For example, **SNGL(DFLOAT(N))** will become **DBLE(DFLOAT(N))**, which is syntactically incorrect.

Functions and variables of type **COMPLEX** are not converted, because Fortran 77 does not define a double precision complex type. Complex constants will be converted, however, since their real and imaginary parts look like normal floating-point values.

SEE ALSO

dtos(1), **ftnchek**(1), **lex**(1), **pfort**(1).

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