NAME

f77_floatingpoint – Fortran IEEE floating-point definitions

SYNOPSIS

#include <f77/f77_floatingpoint.h>

DESCRIPTION

This file defines constants and types used to implement standard floating-point according to ANSI/IEEE Std 754-1985. Use these constants and types to write more easily understood .F source files that will undergo automatic preprocessing prior to Fortran compilation.

IEEE Rounding Modes:

fp_direction_type	The type of the IEEE rounding direction mode. Note that the order of enumeration varies according to hardware.
fp_precision_type	The type of the IEEE rounding precision mode, which only applies on systems that support extended precision such as Sun-3's with 68881's.

SIGFPE handling:

sigfpe_code_type	The type of a SIGFPE code.
sigfpe_handler_type	The type of a user-definable SIGFPE exception handler called to handle a particular SIGFPE code.
SIGFPE_DEFAULT	A macro indicating the default SIGFPE exception handling, namely for IEEE exceptions to continue with a default result, and to abort for other SIGFPE codes.
SIGFPE_IGNORE	A macro indicating an alternate SIGFPE exception handling, namely to ignore and continue execution.
SIGFPE_ABORT	A macro indicating an alternate SIGFPE exception handling, namely to abort with a core dump.

IEEE Exception Handling:

N_IEEE_EXCEPTION	The number of distinct IEEE floating-point exceptions.
fp_exception_type	The type of the N_IEEE_EXCEPTION exceptions. Each exception is given a bit number.
fp_exception_field_type	The type intended to hold at least N_IEEE_EXCEPTION bits corresponding to the IEEE exceptions numbered by *fp_exception_type*. Thus *fp_inexact* corresponds to the least significant bit and *fp_invalid* to the fifth least significant bit. Some operations may set more than one exception.

IEEE Classification:

fp_class_type	An enumeration of the various classes of IEEE floating-point values and symbols.

FILES

/usr/include/f77/f77_floatingpoint.h

SEE ALSO

ieee_environment(3M), f77_ieee_environment(3F)