## Red Hat Enterprise Linux Release 9.2 Manual Pages on 'isgreater.3' command

### $ man isgreater.3

ISGREATER(3)            Linux Programmer's Manual            ISGREATER(3)

NAME

    isgreater,   isgreaterequal,   isless,   islessequal,   islessgreater,

    isunordered - floating-point relational tests without exception for NaN

SYNOPSIS

    #include <math.h>

    int isgreater(x, y);

    int isgreaterequal(x, y);

    int isless(x, y);

    int islessequal(x, y);

    int islessgreater(x, y);

    int isunordered(x, y);

    Link with -lm.

  Feature Test Macro Requirements for glibc (see feature_test_macros(7)):

    All functions described here:

      _ISOC99_SOURCE || _POSIX_C_SOURCE >= 200112L

DESCRIPTION

    The normal relational operations (like <, "less than") fail if  one  of

    the operands is NaN.  This will cause an exception.  To avoid this, C99

    defines the macros listed below.

    These macros are guaranteed to evaluate their arguments only once.  The

    arguments  must be of real floating-point type (note: do not pass inte?

    ger values as arguments to these macros, since the arguments  will  not

be promoted to real-floating types).

**isgreater()**

determines (x) > (y) without an exception if x or y is NaN.

**isgreaterequal()**

determines (x) >= (y) without an exception if x or y is NaN.

**isless()**

determines (x) < (y) without an exception if x or y is NaN.

**islessequal()**

determines (x) <= (y) without an exception if x or y is NaN.

**islessgreater()**

determines (x) < (y) || (x) > (y) without an exception if x or y

is NaN.  This macro is not equivalent to x != y because that ex‐

pression is true if x or y is NaN.

**isunordered()**

determines whether its arguments are unordered, that is, whether

at least one of the arguments is a NaN.

## RETURN VALUE

The macros other than isunordered() return the result of the relational

comparison; these macros return 0 if either argument is a NaN.

isunordered() returns 1 if x or y is NaN and 0 otherwise.

## ERRORS

No errors occur.

## ATTRIBUTES

For  an  explanation  of  the  terms  used  in  this  section,  see  at‐

tributes(7).

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?????????????????????????????????????????????????????????????????
?Interface                 ? Attribute    ? Value   ?
?????????????????????????????????????????????????????????????????
?isgreater(), isgreaterequal(), ? Thread safety ? MT-Safe ?
?isless(), islessequal(), is?   ?            ?       ?
?lessgreater(), isunordered()   ?            ?       ?
?????????????????????????????????????????????????????????????????
```

## CONFORMING TO

POSIX.1-2001, POSIX.1-2008, C99.

NOTES

Not all hardware supports these functions, and where hardware support
isn't provided, they will be emulated by macros. This will result in a
performance penalty. Don't use these functions if NaN is of no concern
for you.

SEE ALSO

fpclassify(3), isnan(3)

COLOPHON

This page is part of release 5.10 of the Linux man-pages project. A
description of the project, information about reporting bugs, and the
latest version of this page, can be found at
https://www.kernel.org/doc/man-pages/.

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