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Red Hat Enterprise Linux Release 9.2 Manual Pages on 'frexp.3p' command

\$ man frexp.3p

FREXP(3P) POSIX Programmer's Manual FREXP(3P)

PROLOG

This manual page is part of the POSIX Programmer's Manual. The Linux implementation of this interface may differ (consult the corresponding Linux manual page for details of Linux behavior), or the interface may not be implemented on Linux.

NAME

frexp, frexpf, frexpl ? extract mantissa and exponent from a double precision number

SYNOPSIS

```
#include <math.h>

double frexp(double num, int *exp);

float frexpf(float num, int *exp);

long double frexpl(long double num, int *exp);
```

DESCRIPTION

The functionality described on this reference page is aligned with the ISO C standard. Any conflict between the requirements described here and the ISO C standard is unintentional. This volume of POSIX.1?2017 defers to the ISO C standard.

These functions shall break a floating-point number num into a normalized fraction and an integral power of 2. The integer exponent shall be stored in the int object pointed to by exp.

RETURN VALUE

For finite arguments, these functions shall return the value x , such that x has a magnitude in the interval $[-1, 1)$ or 0, and num equals x times 2 raised to the power *exp .

If num is NaN, a NaN shall be returned, and the value of *exp is unspecified.

If num is 0, 0 shall be returned, and the value of *exp shall be 0.

If num is $\pm\text{Inf}$, num shall be returned, and the value of *exp is unspecified.

ERRORS

No errors are defined.

The following sections are informative.

EXAMPLES

None.

APPLICATION USAGE

None.

RATIONALE

None.

FUTURE DIRECTIONS

None.

SEE ALSO

`isnan()`, `ldexp()`, `modf()`

The Base Definitions volume of POSIX.1-2017, `<math.h>`

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