

**NAME**

`exp2`, `exp2f`, `exp2l` – base-2 exponential function

**SYNOPSIS**

```
#include <math.h>
```

```
double exp2(double x);
```

```
float exp2f(float x);
```

```
long double exp2l(long double x);
```

Link with `-lm`.

Feature Test Macro Requirements for glibc (see [feature\\_test\\_macros\(7\)](#)):

```
exp2(), exp2f(), exp2l():
```

```
_ISOC99_SOURCE || _POSIX_C_SOURCE >= 200112L
```

**DESCRIPTION**

These functions return the value of 2 raised to the power of  $x$ .

**RETURN VALUE**

On success, these functions return the base-2 exponential value of  $x$ .

For various special cases, including the handling of infinity and NaN, as well as overflows and underflows, see [exp\(3\)](#).

**ERRORS**

See [math\\_error\(7\)](#) for information on how to determine whether an error has occurred when calling these functions.

For a discussion of the errors that can occur for these functions, see [exp\(3\)](#).

**VERSIONS**

These functions first appeared in glibc in version 2.1.

**ATTRIBUTES**

For an explanation of the terms used in this section, see [attributes\(7\)](#).

Interface	Attribute	Value
<code>exp2()</code> , <code>exp2f()</code> , <code>exp2l()</code>	Thread safety	MT-Safe

**CONFORMING TO**

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

The variant returning *double* also conforms to SVr4, 4.3BSD.

**SEE ALSO**

[cbrt\(3\)](#), [cexp2\(3\)](#), [exp\(3\)](#), [exp10\(3\)](#), [sqrt\(3\)](#)

**COLOPHON**

This page is part of release 4.16 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/>.