

**NAME**

INFINITY, NAN, HUGE\_VAL, HUGE\_VALF, HUGE\_VALL – floating-point constants

**LIBRARY**

Math library (*libm*)

**SYNOPSIS**

```
#define _ISOC99_SOURCE    /* See feature_test_macros(7) */
```

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

**INFINITY**

**NAN**

**HUGE\_VAL**

**HUGE\_VALF**

**HUGE\_VALL**

**DESCRIPTION**

The macro **INFINITY** expands to a *float* constant representing positive infinity.

The macro **NAN** expands to a *float* constant representing a quiet NaN (when supported). A *quiet* NaN is a NaN ("not-a-number") that does not raise exceptions when it is used in arithmetic. The opposite is a *signaling* NaN. See IEC 60559:1989.

The macros **HUGE\_VAL**, **HUGE\_VALF**, **HUGE\_VALL** expand to constants of types *double*, *float*, and *long double*, respectively, that represent a large positive value, possibly positive infinity.

**STANDARDS**

C99.

On a glibc system, the macro **HUGE\_VAL** is always available. Availability of the **NAN** macro can be tested using **#ifdef NAN**, and similarly for **INFINITY**, **HUGE\_VALF**, **HUGE\_VALL**. They will be defined by *<math.h>* if **\_ISOC99\_SOURCE** or **\_GNU\_SOURCE** is defined, or **\_\_STDC\_VERSION\_\_** is defined and has a value not less than 199901L.

**SEE ALSO**

**fpclassify(3)**, **math\_error(7)**