

**NAME**

ev - evaluate expressions

**SYNOPSIS**

ev 'expr' ..

**DESCRIPTION**

*Ev* evaluates expressions given on the command line, and sends the results to the standard output, one per line. An expression contains real numbers, function calls, and the following operators:

+ - \* / ^

Operators are evaluated left to right, except '^', which is right associative. Powers have the highest precedence; multiplication and division are evaluated before addition and subtraction. Expressions can be grouped with parentheses. All values are double precision real.

The following library of functions is available:

**if(cond, then, else)**

if cond is greater than zero, then is evaluated, otherwise else is evaluated.

**select(N, a1, a2, ..)**

return aN (N is rounded to the nearest integer). If N is zero, the number of available arguments is returned.

**rand(x)** compute a random number between 0 and 1 based on x.

**floor(x)** return largest integer not greater than x.

**ceil(x)** return smallest integer not less than x.

**sqrt(x)** return square root of x.

**exp(x)** compute e to the power of x (e approx = 2.718281828).

**log(x)** compute the logarithm of x to the base e.

**log10(x)** compute the logarithm of x to the base 10.

**sin(x), cos(x), tan(x)**

trigonometric functions.

**asin(x), acos(x), atan(x)**

inverse trigonometric functions.

**atan2(y, x)** inverse tangent of y/x (range -pi to pi).

**EXAMPLE**

To pass the square root of two and the sine of .5 to a program:

```
program 'ev `sqrt(2)` `sin(.5)'
```

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**SEE ALSO**

calc(1), rcalc(1)