

# Units

This page describes all functions and operations available for units

## Usage

Most basic unit is plain number, such as `'1'` or `'4.5'`.

You can use variables with \$ like `'$example'`.

Each function requires name parenthesis and comma separated arguments e.g. `'min(PI, $example)'`.

You can combine as many as you want, e.g. `'min(PI, 10 + $example)'`.

You can do pretty complex infix, e.g. `'atan2($mouseY, $mouseX) - HALF_PI - HALF_PI / 2'`.

## Constants

- true - boolean true value, equal to 1.0
- false - boolean false value, equal to 0.0
- PI - number equal to 3.14159265358979323846
- HALF\_PI - number equal to 1.57079632679
- TWO\_PI - number equal to 6.28318530718
- E - number equal to 2.7182818284590452354

## Operations

- cond ? a : b = TERNARY, if cond then a, else b
- -a = NEGATE
- a + b = SUM
- a - b = SUB
- a \* b = MUL
- a / b = DIV
- a % b = MOD
- a \*\* b = POW
- a & b = BIT AND
- a | b = BIT OR
- a ^ b = BIT/BOOL XOR
- ~a = BIT NOT
- !a = BOOL NOT
- a << b = SHIFT LEFT
- a >> b = SHIFT RIGHT
- a == b = EQUALS

- $a \neq b$  = NOT EQUALS
- $a > b$  = GREATER THAN
- $a < b$  = LESS THAN
- $a \geq b$  = GREATER OR EQUAL THAN
- $a \leq b$  = LESS OR EQUAL THAN

## Functions

- `random()`
- `time()`
- `roundTime()`
- `min(a, b)`
- `max(a, b)`
- `pow(a, b)`
- `abs(a)`
- `sin(a)`
- `cos(a)`
- `tan(a)`
- `atan(a)`
- `atan2(y, x)`
- `deg(a)`
- `rad(a)`
- `log(a)`
- `log10(a)`
- `log1p(a)`
- `sqrt(a)`
- `sq(a)`
- `floor(a)`
- `ceil(a)`
- `if(statement, trueUnit, falseUnit)`

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