

# 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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