Arduino : **Reference / Reference**

Reference   Language | Libraries | Comparison | Changes

Language Reference

Arduino programs can be divided in three main parts: *structure*, *values* (variables and constants), and *functions*.

Structure

- setup()
- loop()

Control Structures

- if
- if...else
- for
- switch case
- while
- do... while
- break
- continue
- return
- goto

Further Syntax

- ; (semicolon)
- {} (curly braces)
- // (single line comment)
- /* */ (multi-line comment)
- #define
- #include

Arithmetic Operators

- = (assignment operator)
- + (addition)
- - (subtraction)
- * (multiplication)
- / (division)
- % (modulo)

Comparison Operators

- == (equal to)
- != (not equal to)
- < (less than)

Variables

Constants

- HIGH | LOW
- INPUT | OUTPUT| INPUT_PULLUP
- true | false
- integer constants
- floating point constants

Data Types

- void
- boolean
- char
- unsigned char
- byte
- int
- unsigned int
- word
- long
- unsigned long
- short
- float
- double
- string - char array
- String - object
- array

Conversion

- char()
- byte()
- int()
- word()
- long()
- float()

Variable Scope & Qualifiers

- variable scope

Functions

Digital I/O

- pinMode()
- digitalWrite()
- digitalRead()

Analog I/O

- analogReference()
- analogRead()
- analogWrite() - *PWM*

Due only

- analogReadResolution()
- analogWriteResolution()

Advanced I/O

- tone()
- noTone()
- shiftOut()
- shiftIn()
- pulseIn()

Time

- millis()
- micros()
- delay()
- delayMicroseconds()

Math

- min()
- max()
- abs()
- constrain()
- map()
- pow()

- ≥ (greater than)
- ≤= (less than or equal to)
- ≥= (greater than or equal to)

Boolean Operators

- && (and)
- || (or)
- ! (not)

Pointer Access Operators

- * dereference operator
- & reference operator

Bitwise Operators

- & (bitwise and)
- | (bitwise or)
- ^ (bitwise xor)
- ~ (bitwise not)
- << (bitshift left)
- >> (bitshift right)

Compound Operators

- ++ (increment)
- -- (decrement)
- += (compound addition)
- -= (compound subtraction)
- *= (compound multiplication)
- /= (compound division)

- &= (compound bitwise and)
- |= (compound bitwise or)

- static
- volatile
- const

Utilities

- sizeof()

- sqrt()

Trigonometry

- sin()
- cos()
- tan()

Random Numbers

- randomSeed()
- random()

Bits and Bytes

- lowByte()
- highByte()
- bitRead()
- bitWrite()
- bitSet()
- bitClear()
- bit()

External Interrupts

- attachInterrupt()
- detachInterrupt()

Interrupts

- interrupts()
- noInterrupts()

Communication

- Serial
- Stream

USB (Leonardo and Due only)

- Keyboard
- Mouse

Looking for something else?

See the libraries page for interfacing with particular types of hardware. Try the list of community-contributed code. The Arduino language is based on C/C++. It links against AVR

Libc and allows the use of any of its functions; see its user manual for details.

Reference Home

Corrections, suggestions, and new documentation should be posted to the Forum.

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(Printable View of http://arduino.cc/en/Reference/HomePage)