Language Reference

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

FUNCTIONS

Digital I/O

digitalRead()
digitalWrite()
pinMode()

Analog I/O

analogRead()
analogReference()
analogWrite()

Advanced I/O

noTone()
pulseIn()
pulseInLong()
shiftIn()
shiftOut()
tone()

Time

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

Math

abs()
constrain()
map()
max()
min()
pow()
sq()
sqrt()

Trigonometry

cos()
sin()
tan()

Characters

isAlpha()
isAlphaNumeric()
isAscii()
isControl()
isDigit()
isGraph()
isHexadecimalDigit()
isLowerCase()
isPrintable()
isPunct()
isSpace()
isUpperCase()
isWhitespace()

Random Numbers

random()
randomSeed()

Bits and Bytes

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

Communication

Serial
Stream

VARIABLES

Constants

Floating Point Constants
Integer Constants
HIGH | LOW
INPUT | OUTPUT
true | false

Conversion

byte()
char()
float()
int()
long()

Data Types

String()
array
boolean
byte
char
double
float
int
long
short
string
void

Variable Scope & Qualifiers

const
static

STRUCTURE (C++)

Sketch

loop()
setup()

Control Structure

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

Further Syntax

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

Arithmetic Operators

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

Comparison Operators

!= (not equal to)
< (less than)
<= (less than or equal to)
== (equal to)
> (greater than)
>= (greater than or equal to)

Boolean Operators

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

Compound Operators

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