Arduino programs have several main parts: *structure*, *values*, *functions*, and *comments*. *Libraries* let you use other people’s code.

|  |  |  |
| --- | --- | --- |
| Structure  Control Structures   * [if](https://www.arduino.cc/en/Reference/If) (x > 1) * [if (x > 1) ...else](https://www.arduino.cc/en/Reference/Else) * [for](https://www.arduino.cc/en/Reference/For) (x = 0; x < 10, x++) * [while](https://www.arduino.cc/en/Reference/While) (x > 1)   Arithmetic Operators   * [=](https://www.arduino.cc/en/Reference/Assignment) [+](https://www.arduino.cc/en/Reference/Arithmetic) [-](https://www.arduino.cc/en/Reference/Arithmetic) [\*](https://www.arduino.cc/en/Reference/Arithmetic) [/](https://www.arduino.cc/en/Reference/Arithmetic) * [++](https://www.arduino.cc/en/Reference/Increment) (increment) * [--](https://www.arduino.cc/en/Reference/Increment) (decrement)   Comparison Operators   * [==](https://www.arduino.cc/en/Reference/If) (equal to) * [!=](https://www.arduino.cc/en/Reference/If) (not equal to) * [<](https://www.arduino.cc/en/Reference/If) (less than) * [>](https://www.arduino.cc/en/Reference/If) (greater than) * [<=](https://www.arduino.cc/en/Reference/If) (less than or equal to) * [>=](https://www.arduino.cc/en/Reference/If) (greater than or equal to)   Boolean Operators   * [&&](https://www.arduino.cc/en/Reference/Boolean) (and) * [||](https://www.arduino.cc/en/Reference/Boolean) (or) * [!](https://www.arduino.cc/en/Reference/Boolean) (not)   Bitwise Operators   * [&](https://www.arduino.cc/en/Reference/BitwiseAnd) (bitwise and) * [|](https://www.arduino.cc/en/Reference/BitwiseAnd) (bitwise or) * [^](https://www.arduino.cc/en/Reference/BitwiseAnd) (bitwise xor) * [~](https://www.arduino.cc/en/Reference/BitwiseXorNot) (bitwise not) * [<<](https://www.arduino.cc/en/Reference/Bitshift) (bitshift left) * [>>](https://www.arduino.cc/en/Reference/Bitshift) (bitshift right) | Values  Constants  [HIGH](https://www.arduino.cc/en/Reference/Constants) | [LOW](https://www.arduino.cc/en/Reference/Constants)  [INPUT](https://www.arduino.cc/en/Reference/Constants) | [OUTPUT](https://www.arduino.cc/en/Reference/Constants)  [true](https://www.arduino.cc/en/Reference/Constants) | [false](https://www.arduino.cc/en/Reference/Constants)  [#define](https://www.arduino.cc/en/Reference/IntegerConstants) [3.14159](https://www.arduino.cc/en/Reference/Fpconstants)  Variables  [void](https://www.arduino.cc/en/Reference/Void) (for functions)  [boolean](https://www.arduino.cc/en/Reference/BooleanVariables) (0 or 1)  [char](https://www.arduino.cc/en/Reference/Char) (a letter)  [byte](https://www.arduino.cc/en/Reference/Byte) (0 to 255)  [int](https://www.arduino.cc/en/Reference/Int) (large integers)  [float](https://www.arduino.cc/en/Reference/Float) (floating point)  [array](https://www.arduino.cc/en/Reference/Array) (many numbers)  [string](https://www.arduino.cc/en/Reference/String) (many letters)  Comments  [// single line](https://www.arduino.cc/en/Reference/Comments)  [/\* multi-line \*/](https://www.arduino.cc/en/Reference/Comments)  Libraries  [#include <otherCode.h>](https://www.arduino.cc/en/Reference/Include) | [Functions](http://arduino.cc/en/Reference/FunctionDeclaration)  [setup](https://www.arduino.cc/en/Reference/Setup)()  [loop](https://www.arduino.cc/en/Reference/Loop)()  Digital I/O  [pinMode](https://www.arduino.cc/en/Reference/PinMode)()  [digitalWrite](https://www.arduino.cc/en/Reference/DigitalWrite)()  [digitalRead](https://www.arduino.cc/en/Reference/DigitalRead)()  Analog I/O  [analogRead](https://www.arduino.cc/en/Reference/AnalogRead)()  [analogWrite](https://www.arduino.cc/en/Reference/AnalogWrite)()  Time  [delay](https://www.arduino.cc/en/Reference/Delay)(milliseconds)  [delayMicroseconds](https://www.arduino.cc/en/Reference/DelayMicroseconds)()  Math  [min](https://www.arduino.cc/en/Reference/Min)()  [max](https://www.arduino.cc/en/Reference/Max)()  [abs](https://www.arduino.cc/en/Reference/Abs)()  [constrain](https://www.arduino.cc/en/Reference/Constrain)()  [map](https://www.arduino.cc/en/Reference/Map)()  [pow](https://www.arduino.cc/en/Reference/Pow)()  [sqrt](https://www.arduino.cc/en/Reference/Sqrt)()  Random Numbers  [random](https://www.arduino.cc/en/Reference/Random)()  Communication  Serial.begin()  Serial.print() |