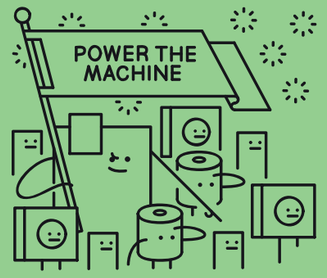
# Arduino Cheat Sheet

Need a hand starting with your Arduino board and software? This sheet explains some of the basics to get you going on your coding adventure!

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## Arduino Environment

Software written using Arduino are called sketches. These sketches are written in the Arduino Integrated Development Environment (IDE). Sketches are saved with the file extension .ino. The IDE has features for cutting/pasting and for searching/replacing text. The message area gives feedback while saving and exporting and also displays errors. The console displays text output by the Arduino environment including complete error messages and other information. The bottom righthand corner of the window displays the current board and serial port.

## The Toolbar

Below are the toolbar functions you'll find when you open your Arduino software.

**Verify -** Check your code for errors.

**Upload -** Compiles your code and uploads it to the Arduino I/O board.

**New -** Creates a new sketch.

**Open -** Presents a menu of all the sketches in your sketch-book. Clicking one will open it within the current window.

**Save -** Saves your sketch.

**Serial Monitor -** Opens the serial monitor.

## Menus

### Edit

**Copy for Forum -** Copies the code of your sketch to the clipboard in a form suitable for posting to the forum, complete with syntax colouring.

**Copy as HTML -** Copies the code of your sketch to the clipboard as HTML, suitable for embedding in web pages.

### Sketch

**Verify/Compile -** Checks your sketch for errors.

**Show Sketch Folder -** Opens the current sketch folder.

**Add File -** Adds a source file to the sketch (it will be copied from its current location). The new file appears in a new tab in the sketch window. Files can be removed from the sketch using the tab menu.

**Import Library -** Adds a library to your sketch by inserting #include statements at the start of your code.

### Tools

**Auto Format -** This formats your code nicely: i.e. indents it so that opening and closing curly braces line up, and that the statements inside curly braces are indented more.

**Archive Sketch -** Archives a copy of the current sketch in .zip format. The archive is placed in the same directory as the sketch.

**Board -** Select the board that you're using.

**Serial Port -** This menu contains all the serial devices (real or virtual) on your machine. It should automatically refresh every time you open the top-level tools menu.

## Sketch

A sketch is the name that Arduino uses for a program. It's the unit of code that is uploaded to and run on an Arduino board.

## Code

The setup() function is called when a sketch starts. Use it to initialize variables, pin modes, start using libraries, etc. The setup function will only run once, after each powerup or reset of the Arduino board.

After creating a setup() function, the loop() function does precisely what its name suggests, and loops consecutively, allowing your program to change and respond as it runs. Code in the loop() section of your sketch is used to actively control the Arduino board.

The code below won't actually do anything, but its structure is useful for copying and pasting to get you started on any sketch of your own. It also shows you how to make comments in your code.

Any line that starts with two slashes (//) will not be read by the compiler, so you can write anything you want after it. Commenting your code like this can be particularly helpful in explaining, both to yourself and others, how your program functions step by step.

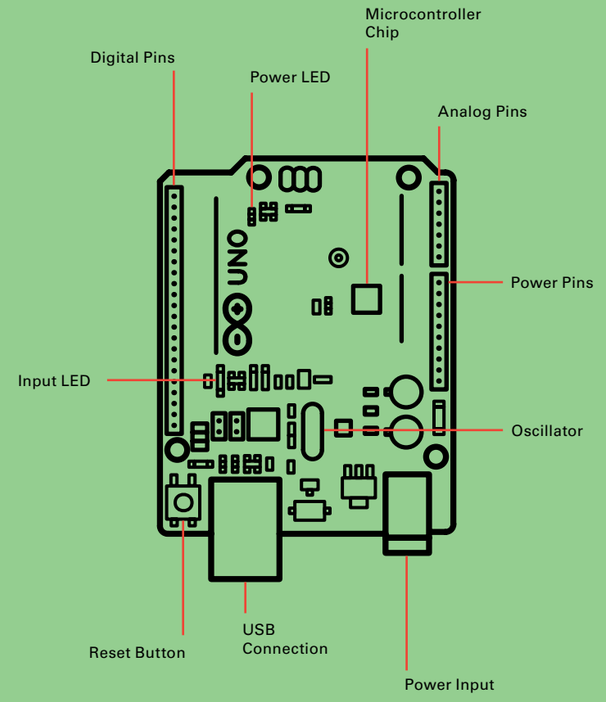
```
void setup() {
  // put your setup code here, to run
once:

}

void loop() {
  // put your main code here, to run
repeatedly:
}
```

## Arduino Layout

The basic components on your Arduino board have been labelled below. These are the ones you will need to know about to get you started with Arduino.

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