

Arduino Cheat Sheet

LED (Light emitting diode)

LED Hooked up to PIN 5.

Setup: `pinMode(5,OUTPUT);`

Loop:

Either: `digitalWrite(5,HIGH);`

Or: `analogWrite(5,<0-255>);` if hooked to PWM~ pin. Example: `analogWrite(5,100);`

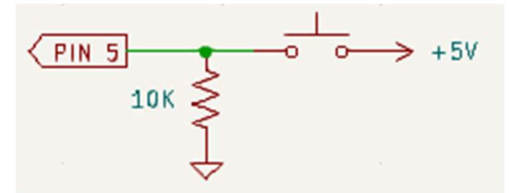


Button/Switch with pull-DOWN resistor

Button hooked up to PIN 5. When not pressed, the reads LOW.

Setup: `pinMode(5,INPUT);`

Loop (reading from a switch): `variable = digitalRead(5);`

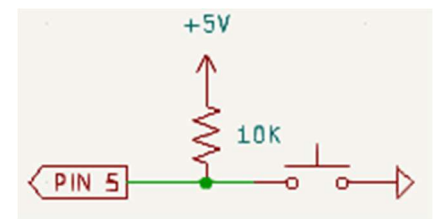


Button/Switch with pull-UP resistor

Button hooked up to PIN 5. When not pressed, the reads HIGH.

Setup: `pinMode(5,INPUT);`

Loop (reading from a switch): `variable = digitalRead(5);`

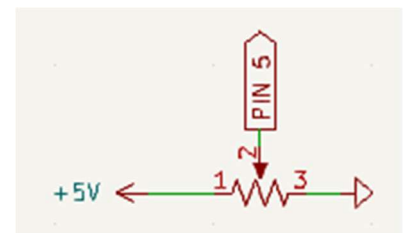


Potentiometer

Variable resistor (potentiometer) hooked up to PIN 5.

Setup: `pinMode(5,INPUT);`

Loop (reading from a switch): `variable = analogRead(5);`



RGB (Multicolour) LED

3 LEDs in one – Red, Green, Blue.

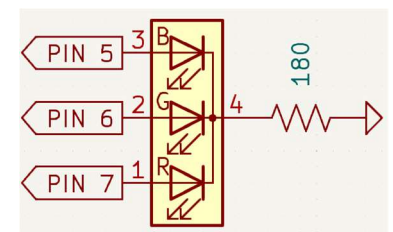
Hooked up to PINS 5,6,7

Setup (pick PWM~ pins):

`pinMode(5,OUTPUT);`

`pinMode(6,OUTPUT);`

`pinMode(7,OUTPUT);`



Control as if you had three analog LEDs. Resulting colour will be blend of the colours selected.

Key Principles

The SETUP function runs once at the start of your program.

The LOOP function runs over and over and over again continuously.

Variables

When creating variables (places to store information), remember they have types. The important ones we often use are

For general information, counters, or readings, use **Integers**

```
int exampleInteger;
```

```
//An integer, used for storing non-decimal numbers from -32,768 to 32,767  
// https://docs.arduino.cc/language-reference/en/variables/data-types/int/
```

For switches/buttons, or the state of LEDs, use **Booleans**

```
bool exampleBoolean;
```

```
//A Boolean, used for storing either 'true' or 'false'.  
// true is the same as 1, or HIGH  
// false is the same as 0, or LOW  
// https://docs.arduino.cc/language-reference/en/variables/data-types/bool/
```