Blink

This is a simple script to make the light blink, and was the first experiment using the Arduino IDE and C. By default the scripting is split into a setup function and a loop function, and then any other functions that can be called in either. Below, the ‘led’ variable was used to specify the pin on the arduino. This script sets the led pin voltage to ‘HIGH’ (on), waits 1000 milliseconds (one second), then sets the voltage to ‘LOW’ (off) and waits another 1000 milliseconds. This then loops.

void setup() {

pinMode(led, OUTPUT);

}

void loop() {

digitalWrite(led, HIGH);

delay(1000);

digitalWrite(led, LOW);

delay(1000);

}

Fade

The fade script follows a similar code. The variables ‘led’ and ‘brightness’ are set to a specified pin and 0 respectively. With each loop, the brightness is increased by the fade amount. This is set to a negative number if the brightness hits 255. ‘DigitalWrite’ is changed to ‘analogWrite’ as the program needs to write on a 1-100 scale rather than 0-1.

analogWrite(led, brightness); //has to be done with analog (1-100)

// change the brightness for next time through the loop:

brightness = brightness + fadeAmount;

// reverse the direction of the fading at the ends of the fade:

if (brightness <= 0 || brightness >= 255) {

fadeAmount = -fadeAmount;

}

Reverse Fade