int ledRed = 11;

int ledGreen = 10;

int ledBlue = 9;

int d = 500;

void setup()

{

pinMode(ledRed, OUTPUT);

pinMode(ledGreen, OUTPUT);

pinMode(ledBlue, OUTPUT);

}

void loop()

{

showAllColors();

showRGB();

}

void showAllColors()

{

digitalWrite(ledRed, LOW);

digitalWrite(ledGreen, LOW);

digitalWrite(ledBlue, LOW);

delay(d);

digitalWrite(ledRed, HIGH);

digitalWrite(ledGreen, LOW);

digitalWrite(ledBlue, LOW);

delay(d);

digitalWrite(ledRed, LOW);

digitalWrite(ledGreen, HIGH);

digitalWrite(ledBlue, LOW);

delay(d);

digitalWrite(ledRed, LOW);

digitalWrite(ledGreen, LOW);

digitalWrite(ledBlue, HIGH);

delay(d);

digitalWrite(ledRed, HIGH);

digitalWrite(ledGreen, HIGH);

digitalWrite(ledBlue, LOW);

delay(d);

digitalWrite(ledRed, LOW);

digitalWrite(ledGreen, HIGH);

digitalWrite(ledBlue, HIGH);

delay(d);

digitalWrite(ledRed, HIGH);

digitalWrite(ledGreen, LOW);

digitalWrite(ledBlue, HIGH);

delay(d);

digitalWrite(ledRed, LOW);

digitalWrite(ledGreen, LOW);

digitalWrite(ledBlue, LOW);

delay(d);

}

void showRGB()

{

for (int i = 0; i <= 767; i++)

{

showPWM(i);

delay(10);

}

}

void showPWM(int color)

{

int redPWM;

int greenPWM;

int bluePWM;

if (color <= 255)

{

redPWM = 255 - color;

greenPWM = color;

bluePWM = 0;

}

else if (color <= 511)

{

redPWM = 511 - color;

greenPWM = 0;

bluePWM = color - 256;

}

else

{

redPWM = color - 512;

greenPWM = 767 - color;

bluePWM = 0;

}

analogWrite(ledRed, redPWM);

analogWrite(ledGreen, bluePWM);

analogWrite(ledBlue, greenPWM);

}



