const int potMin = 0;

const int potMax = 1023;

const int ledPin13 = 13;

const int ledPin12 = 12;

const int ledPin11 = 11;

const int ledPin10 = 10;

const int ledPin9 = 9;

const int ledPin8 = 8;

const int ledPin7 = 7;

const int ledPin6 = 6;

const int ledPin5 = 5;

const int ledPin4 = 4;

const int ledPin3 = 3;

const int ledPin2 = 2;

const int ledPin1 = 1;

const int ledPin0 = 0;

int brightness = 0; // initial brightness

int deltaFade = 5; // change in brightness

void setup() {

}

void loop(){

 pinMode(ledPin13, OUTPUT);

 pinMode(ledPin12, OUTPUT);

 pinMode(ledPin11, OUTPUT);

 pinMode(ledPin10, OUTPUT);

 pinMode(ledPin9, OUTPUT);

 pinMode(ledPin8, OUTPUT);

 pinMode(ledPin7, OUTPUT);

 pinMode(ledPin6, OUTPUT);

 pinMode(ledPin5, OUTPUT);

 pinMode(ledPin4, OUTPUT);

 pinMode(ledPin3, OUTPUT);

 pinMode(ledPin2, OUTPUT);

 pinMode(ledPin1, OUTPUT);

 pinMode(ledPin0, OUTPUT);

int sensorReading = analogRead (A0);

int range = map(sensorReading, potMin, potMax , 0, 14);

switch (range) {

 case 0:

digitalWrite(ledPin13, LOW);

digitalWrite(ledPin12, LOW);

digitalWrite(ledPin11, LOW);

digitalWrite(ledPin10, LOW);

digitalWrite(ledPin9, LOW);

digitalWrite(ledPin8, LOW);

digitalWrite(ledPin7, LOW);

digitalWrite(ledPin6, LOW);

digitalWrite(ledPin5, LOW);

digitalWrite(ledPin4, LOW);

digitalWrite(ledPin3, LOW);

digitalWrite(ledPin2, LOW);

digitalWrite(ledPin1, LOW);

digitalWrite(ledPin0, LOW);

break;

 case 2:

digitalWrite(ledPin0, HIGH);

delay (40);

digitalWrite(ledPin1, HIGH);

delay (40);

digitalWrite(ledPin2, HIGH);

delay (40);

digitalWrite(ledPin4, HIGH);

delay (40);

digitalWrite(ledPin7, HIGH);

delay (40);

digitalWrite(ledPin8, HIGH);

delay (40);

digitalWrite(ledPin12, HIGH);

delay (40);

digitalWrite(ledPin13, HIGH);

delay (40);

digitalWrite(ledPin6, HIGH);

delay (40);

digitalWrite(ledPin3, HIGH);

delay (40);

digitalWrite(ledPin5, HIGH);

delay (40);

digitalWrite(ledPin11, HIGH);

delay (40);

digitalWrite(ledPin10, HIGH);

delay (40);

digitalWrite(ledPin9, HIGH);

delay (40);

digitalWrite(ledPin9, LOW);

delay (40);

digitalWrite(ledPin10, LOW);

delay (40);

digitalWrite(ledPin11, LOW);

delay (40);

digitalWrite(ledPin5, LOW);

delay (40);

digitalWrite(ledPin3, LOW);

delay (40);

digitalWrite(ledPin6, LOW);

delay (40);

digitalWrite(ledPin13, LOW);

delay (40);

digitalWrite(ledPin12, LOW);

delay (40);

digitalWrite(ledPin8, LOW);

delay (40);

digitalWrite(ledPin7, LOW);

delay (40);

digitalWrite(ledPin4, LOW);

delay (40);

digitalWrite(ledPin2, LOW);

delay (40);

digitalWrite(ledPin1, LOW);

delay (70);

digitalWrite(ledPin0, LOW);

delay (80);

digitalWrite(ledPin0, HIGH);

delay (40);

digitalWrite(ledPin1, HIGH);

delay (40);

digitalWrite(ledPin2, HIGH);

delay (40);

digitalWrite(ledPin4, HIGH);

delay (40);

digitalWrite(ledPin7, HIGH);

delay (40);

digitalWrite(ledPin8, HIGH);

delay (40);

digitalWrite(ledPin12, HIGH);

delay (40);

digitalWrite(ledPin13, HIGH);

delay (40);

digitalWrite(ledPin6, HIGH);

delay (40);

digitalWrite(ledPin3, HIGH);

delay (40);

digitalWrite(ledPin5, HIGH);

delay (40);

digitalWrite(ledPin11, HIGH);

delay (40);

digitalWrite(ledPin10, HIGH);

delay (40);

digitalWrite(ledPin9, HIGH);

delay (40);

digitalWrite(ledPin9, LOW);

delay (40);

digitalWrite(ledPin10, LOW);

delay (40);

digitalWrite(ledPin11, LOW);

delay (40);

digitalWrite(ledPin5, LOW);

delay (40);

digitalWrite(ledPin3, LOW);

delay (40);

digitalWrite(ledPin6, LOW);

delay (40);

digitalWrite(ledPin13, LOW);

delay (40);

digitalWrite(ledPin12, LOW);

delay (40);

digitalWrite(ledPin8, LOW);

delay (40);

digitalWrite(ledPin7, LOW);

delay (40);

digitalWrite(ledPin4, LOW);

delay (40);

digitalWrite(ledPin2, LOW);

delay (40);

digitalWrite(ledPin1, LOW);

delay (80);

digitalWrite(ledPin0, LOW);

delay (80);

 break;

 case 4:

 digitalWrite(ledPin9, HIGH);

delay (10);

 digitalWrite(ledPin9, LOW);

delay (10);

 digitalWrite(ledPin10, HIGH);

delay (10);

 digitalWrite(ledPin10, LOW);

delay (10);

 digitalWrite(ledPin11, HIGH);

delay (10);

 digitalWrite(ledPin11, LOW);

delay (10);

 digitalWrite(ledPin5, HIGH);

delay (10);

 digitalWrite(ledPin5, LOW);

delay (10);

 digitalWrite(ledPin3, HIGH);

delay (10);

 digitalWrite(ledPin3, LOW);

delay (10);

 digitalWrite(ledPin6, HIGH);

delay (10);

 digitalWrite(ledPin6, LOW);

delay (10);

 digitalWrite(ledPin13, HIGH);

delay (10);

 digitalWrite(ledPin13, LOW);

delay (10);

 digitalWrite(ledPin12, HIGH);

delay (10);

 digitalWrite(ledPin12, LOW);

delay (10);

 digitalWrite(ledPin8, HIGH);

delay (10);

 digitalWrite(ledPin8, LOW);

delay (10);

 digitalWrite(ledPin7, HIGH);

delay (10);

 digitalWrite(ledPin7, LOW);

delay (10);

 digitalWrite(ledPin4, HIGH);

delay (10);

 digitalWrite(ledPin4, LOW);

delay (10);

 digitalWrite(ledPin2, HIGH);

delay (10);

 digitalWrite(ledPin2, LOW);

delay (10);

 digitalWrite(ledPin1, HIGH);

delay (10);

 digitalWrite(ledPin1, LOW);

delay (10);

 digitalWrite(ledPin0, HIGH);

delay (10);

 digitalWrite(ledPin0, LOW);

delay (10);

 digitalWrite(ledPin0, HIGH);

delay (10);

 digitalWrite(ledPin0, LOW);

delay (10);

 digitalWrite(ledPin1, HIGH);

delay (10);

 digitalWrite(ledPin1, LOW);

delay (10);

 digitalWrite(ledPin2, HIGH);

delay (10);

 digitalWrite(ledPin2, LOW);

delay (10);

 digitalWrite(ledPin4, HIGH);

delay (10);

 digitalWrite(ledPin4, LOW);

delay (10);

 digitalWrite(ledPin7, HIGH);

delay (10);

 digitalWrite(ledPin7, LOW);

delay (10);

 digitalWrite(ledPin8, HIGH);

delay (10);

 digitalWrite(ledPin8, LOW);

delay (10);

 digitalWrite(ledPin12, HIGH);

delay (10);

 digitalWrite(ledPin12, LOW);

delay (10);

 digitalWrite(ledPin13, HIGH);

delay (10);

 digitalWrite(ledPin13, LOW);

delay (10);

 digitalWrite(ledPin6, HIGH);

delay (10);

 digitalWrite(ledPin6, LOW);

delay (10);

 digitalWrite(ledPin3, HIGH);

delay (10);

 digitalWrite(ledPin3, LOW);

delay (10);

 digitalWrite(ledPin5, HIGH);

delay (10);

 digitalWrite(ledPin5, LOW);

delay (10);

 digitalWrite(ledPin11, HIGH);

delay (10);

 digitalWrite(ledPin11, LOW);

delay (10);

 digitalWrite(ledPin10, HIGH);

delay (10);

 digitalWrite(ledPin10, LOW);

delay (10);

 digitalWrite(ledPin9, HIGH);

delay (10);

 digitalWrite(ledPin9, LOW);

delay (10);

 break;

 case 6:

 digitalWrite(ledPin13, random(50)+250);

 digitalWrite(ledPin12, random(50)+250);

 analogWrite(ledPin11, random(100)+250);

 analogWrite(ledPin10, random(100)+250);

 analogWrite(ledPin9, random(100)+250);

 digitalWrite(ledPin8, random(50)+250);

 digitalWrite(ledPin7, random(50)+250);

 analogWrite(ledPin6, random(100)+250);

 analogWrite(ledPin5, random(100)+250);

 digitalWrite(ledPin4, random(50)+250);

 analogWrite(ledPin3, random(100)+250);

 digitalWrite(ledPin2, random(50)+250);

 digitalWrite(ledPin1, random(50)+250);

 digitalWrite(ledPin0, random(50)+250);

 delay(random(50));

 break;

 case 8:

 digitalWrite(0, HIGH);

 digitalWrite(1, HIGH);

 delay (50);

 digitalWrite(2, HIGH);

 digitalWrite(4, HIGH);

 delay (50);

 digitalWrite(7, HIGH);

 digitalWrite(8, HIGH);

 delay (50);

 digitalWrite(6, HIGH);

 digitalWrite(11, HIGH);

 delay (50);

 digitalWrite(3, HIGH);

 digitalWrite(5, HIGH);

 digitalWrite(10, HIGH);

 digitalWrite(9, HIGH);

 delay (50);

 digitalWrite(12, HIGH);

 digitalWrite(13, HIGH);

 delay(50);

 digitalWrite(13, LOW);

 digitalWrite(12, LOW);

 delay(20);

 digitalWrite(3, LOW);

 digitalWrite(5, LOW);

 digitalWrite(10, LOW);

 digitalWrite(9, LOW);

 delay(20);

 digitalWrite(6, LOW);

 digitalWrite(11,LOW);

 delay(20);

 digitalWrite(7, LOW);

 digitalWrite(8, LOW);

 delay(20);

 digitalWrite(2, LOW);

 digitalWrite(4, LOW);

 delay(20);

 digitalWrite(0, HIGH);

 digitalWrite(1, HIGH);

 delay (50);

 digitalWrite(2, HIGH);

 digitalWrite(4, HIGH);

 delay (50);

 digitalWrite(7, HIGH);

 digitalWrite(8, HIGH);

 delay (50);

 digitalWrite(6, HIGH);

 digitalWrite(11, HIGH);

 delay (50);

 digitalWrite(3, HIGH);

 digitalWrite(5, HIGH);

 digitalWrite(10, HIGH);

 digitalWrite(9, HIGH);

 delay(50);

 digitalWrite(12, HIGH);

 digitalWrite(13, HIGH);

 delay(50);

 digitalWrite(13, LOW);

 digitalWrite(12, LOW);

 delay(50);

 digitalWrite(3, LOW);

 digitalWrite(5, LOW);

 digitalWrite(10, LOW);

 digitalWrite(9, LOW);

 delay(60);

 digitalWrite(6, LOW);

 digitalWrite(11, LOW);

 delay(60);

 digitalWrite(7, LOW);

 digitalWrite(8,LOW);

 delay(60);

 digitalWrite(2, LOW);

 digitalWrite(4, LOW);

 delay(60);

 digitalWrite(1,LOW);

 digitalWrite(0, LOW);

 delay(100);

 digitalWrite(8, LOW);

 digitalWrite(7, LOW);

 delay(80

 );

 break;

case 10:

digitalWrite(ledPin2, HIGH);

digitalWrite(ledPin4, HIGH);

digitalWrite(ledPin7, HIGH);

digitalWrite(ledPin8, HIGH);

digitalWrite(ledPin12, HIGH);

digitalWrite(ledPin13, HIGH);

digitalWrite(ledPin0, HIGH);

digitalWrite(ledPin1, HIGH);

delay(2);

digitalWrite(ledPin2, LOW);

digitalWrite(ledPin4, LOW);

digitalWrite(ledPin7, LOW);

digitalWrite(ledPin8, LOW);

digitalWrite(ledPin12, LOW);

digitalWrite(ledPin13, LOW);

digitalWrite(ledPin0, LOW);

digitalWrite(ledPin1, LOW);

analogWrite(ledPin11, brightness); // set initial LED brightness

analogWrite(ledPin10, brightness); // set initial LED brightness

analogWrite(ledPin9, brightness); // set initial LED brightness

analogWrite(ledPin6, brightness); // set initial LED brightness

analogWrite(ledPin5, brightness); // set initial LED brightness

analogWrite(ledPin3, brightness); // set initial LED brightness

brightness += deltaFade; // change brightness for next loop execution

// reverse fading direction at either end of fade

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

deltaFade = -deltaFade; }

delay(50); // delay for 50ms to see dimming effect

break;

case 12:

digitalWrite(ledPin13, HIGH);

digitalWrite(ledPin12, HIGH);

digitalWrite(ledPin11, HIGH);

digitalWrite(ledPin10, HIGH);

digitalWrite(ledPin9, HIGH);

digitalWrite(ledPin8, HIGH);

digitalWrite(ledPin7, HIGH);

digitalWrite(ledPin6, HIGH);

digitalWrite(ledPin5, HIGH);

digitalWrite(ledPin4, HIGH);

digitalWrite(ledPin3, HIGH);

digitalWrite(ledPin2, HIGH);

digitalWrite(ledPin1, HIGH);

digitalWrite(ledPin0, HIGH);

break;

 }

}