#include <Adafruit\_NeoPixel.h>

int ledPin= 3;

int ledNo= 12;

Adafruit\_NeoPixel strip= Adafruit\_NeoPixel(ledNo,ledPin,NEO\_RGB+NEO\_KHZ800);

int buzzerPin= 2;

int echoPin= 6;

int trigPin= 5;

int minDistance = 100;

int maxDistance = 300;

void setup()

{

pinMode(buzzerPin, OUTPUT);

pinMode(trigPin, OUTPUT);

pinMode(echoPin, INPUT);

Serial. begin(9600);

strip.begin();

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

{

strip.setPixelColor(i,strip.Color(0,0,0));

}

strip.show();

}

void loop()

{

int distance = calcDistance();

Serial.println(distance);

int ledsToGlow = map(distance, minDistance, maxDistance, ledNo, 1);

Serial.println(ledsToGlow);

if(ledsToGlow == 12)

{

digitalWrite(buzzerPin, HIGH);

}

else

{

digitalWrite(buzzerPin, LOW);

}

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

{

if(i < 4)

{

strip.setPixelColor(i,strip.Color(50,0,0));//green,red,blue

}

else if(i >= 4 && i < 8)

{

strip.setPixelColor(i,strip.Color(50,50,0));//green,red,blue

}

else if(i >= 8 && i < 12)

{

strip.setPixelColor(i,strip.Color(0,50,0));//green,red,blue

}

}

for(int i = ledsToGlow; i < ledNo; i++)

{

strip.setPixelColor(i,strip.Color(0,0,0));

}

strip.show();

delay(50);

}

int calcDistance()

{

long distance,duration;

digitalWrite(trigPin, LOW);

delayMicroseconds(2);

digitalWrite(trigPin, HIGH);

delayMicroseconds(10);

digitalWrite(trigPin, LOW);

duration = pulseIn(echoPin, HIGH);

distance = duration/29/2;

if(distance >= maxDistance)

{

distance = maxDistance;

}

if(distance <= minDistance)

{

distance = minDistance;

}

return distance;

}