int R1=10; //pins for RED LEDs

int R2=11;

int R3=12;

int R4=13;

int G1=6; // Pins for Green LEDs and immediate next yellow LEDs

int G2=7;

int G3=8;

int G4=9;

int sensor1=2;

int sensorState1=0;

int lastsensorState1=0;

int CarCounter1=0;

int sensorState2=0;

int sensor2=3;

int lastsensorState2=0;

int CarCounter2=0;

int sensorState3=0;

int sensor3=4;

int lastsensorState3=0;

int CarCounter3=0;

int sensorState4=0;

int sensor4=5;

int lastsensorState4=0;

int CarCounter4=0;

unsigned long previousMillis = 000;

long interval=5000;

void setup() //part that is executed once when the program begin

{

pinMode(G1, OUTPUT);

pinMode(G2, OUTPUT);

pinMode(G3, OUTPUT);

pinMode(G4, OUTPUT);

pinMode(R1, OUTPUT);

pinMode(R2, OUTPUT);

pinMode(R3, OUTPUT);

pinMode(R4, OUTPUT);

digitalWrite(G1, HIGH);

digitalWrite(R3, HIGH);

digitalWrite(R4, HIGH);

Serial.begin(9600); // for serial monitor

}

void loop() // Part that is executed again and again

{ //Counting mechanism for sensor1

sensorState1 = digitalRead(sensor1);

if (sensorState1 != lastsensorState1)

{

if (sensorState1 == HIGH)

{

CarCounter1=1;

}

}

lastsensorState1 = sensorState1;

//Counting mechanism for sensor2

sensorState2 = digitalRead(sensor2);

if (sensorState2 != lastsensorState2)

{

if (sensorState2 == HIGH)

CarCounter2=1;

}

lastsensorState2 = sensorState2;

//Counting mechanism for sensor3

sensorState3 = digitalRead(sensor3);

if (sensorState3 != lastsensorState3)

{

if (sensorState3 == HIGH)

CarCounter3=1;

}

lastsensorState3 = sensorState3;

//Counting mechanism for sensor4

sensorState4 = digitalRead(sensor4);

if (sensorState4 != lastsensorState4)

{

if (sensorState4 == HIGH)

CarCounter4=1;

}

lastsensorState4 = sensorState4;

unsigned long currentMillis = millis(); //Millis function used for creating delay

if (currentMillis - previousMillis>= interval)

{

Serial.print("time :");

Serial.println(previousMillis);

previousMillis = currentMillis;

if(digitalRead(G1)==HIGH)

{

digitalWrite (G2, HIGH);

digitalWrite (G3, LOW);

digitalWrite (G4, LOW);

digitalWrite (G1,LOW);

digitalWrite (R4,HIGH);

digitalWrite (R1,HIGH);

digitalWrite (R2,LOW);

digitalWrite (R3,LOW);

Serial.print ("number of car passed in 2: ");

Serial.println(CarCounter2);

interval= 5000\*CarCounter2+5000;

CarCounter2=0;

}

else if(digitalRead(G2)==HIGH)

{

digitalWrite(G3, HIGH);

digitalWrite(G4, LOW);

digitalWrite(G1, LOW);

digitalWrite(G2,LOW);

digitalWrite(R1,HIGH);

digitalWrite(R2,HIGH);

digitalWrite(R3,LOW);

digitalWrite(R4,LOW);

Serial.print("number of car passed in 3: ");

Serial.println(CarCounter3);

interval= 5000\*CarCounter3+5000;

CarCounter3=0;

}

else if(digitalRead(G3)==HIGH)

{

digitalWrite(G4, HIGH);

digitalWrite(G1, LOW);

digitalWrite(G2, LOW);

digitalWrite(G3,LOW);

digitalWrite(R2,HIGH);

digitalWrite(R3,HIGH);

digitalWrite(R4,LOW);

digitalWrite(R1,LOW);

Serial.print("number of car passed in 4: ");

Serial.println(CarCounter4);

interval= 5000\*CarCounter4+5000;

CarCounter4=0;

}

else if(digitalRead(G4)==HIGH)

{

digitalWrite(G1, HIGH);

digitalWrite(G3, LOW);

digitalWrite(G4,LOW);

digitalWrite(R3,HIGH);

digitalWrite(R4,HIGH);

digitalWrite(R1,LOW);

digitalWrite(R2,LOW);

Serial.print ("number of car passed in 1: ");

Serial.println(CarCounter1);

interval = 5000\*CarCounter1+5000;

CarCounter1=0;

}

}

}