TRAFFIC MANAGEMENT

**PYTHON PROGRAM FOR ARDUINO UNO**

int redPin = 9;

int yellowPin = 10;

int greenPin = 11;

void setup() {

pinMode(redPin, OUTPUT);

pinMode(yellowPin, OUTPUT);

pinMode(greenPin, OUTPUT);

}

void loop() {

// Control traffic lights in a loop

// Green light for one direction

digitalWrite(greenPin, HIGH);

digitalWrite(redPin, LOW);

delay(5000); // 5 seconds for green light

// Yellow light for the same direction

digitalWrite(greenPin, LOW);

digitalWrite(yellowPin, HIGH);

delay(2000); // 2 seconds for yellow light

// Red light for the same direction

digitalWrite(yellowPin, LOW);

digitalWrite(redPin, HIGH);

delay(5000); // 5 seconds for red light

// Change the direction of the green light

digitalWrite(redPin, LOW);

digitalWrite(greenPin, HIGH);

delay(5000); // 5 seconds for green light in the other direction

}

**PYTHON PROGRAM FOR RASPBERRY PI**

import RPi.GPIO as GPIO

import time

from picamera import PiCamera

# Initialize GPIO pins

GPIO.setmode(GPIO.BCM)

red\_pin, yellow\_pin, green\_pin = 17, 18, 27

GPIO.setup((red\_pin, yellow\_pin, green\_pin), GPIO.OUT)

# Initialize camera

camera = PiCamera()

try:

while True:

# Simulate traffic light control

GPIO.output(red\_pin, True)

time.sleep(10)

GPIO.output(red\_pin, False)

GPIO.output(green\_pin, True)

time.sleep(10)

GPIO.output(green\_pin, False)

# Capture images or video from the camera

camera.capture('image.jpg')

time.sleep(1)

# Add distance measurement from the ultrasonic sensor

except KeyboardInterrupt:

GPIO.cleanup()

camera.close()