**Assignment -1**

Python Programming

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| Assignment Date | 30 September 2022 |
| Student Name | Mr. R.Purushothaman |
| Student Roll Number | 422119104019 |
| Maximum Marks | 2 Marks |

**Question:**

**To Write a Python code for Blinking LED and Traffic Lights For Raspberry pi .**

**program:**

**//code for blinking LED**

import RPi.GPIO as GPIO

import time

LED\_PIN = 17

GPIO.setmode(GPIO.BCM)

GPIO.setup(LED\_PIN, GPIO.OUT)

while True:

    GPIO.output(LED\_PIN, GPIO.HIGH)

    time.sleep(1)

    GPIO.output(LED\_PIN, GPIO.LOW)

    time.sleep(1)

GPIO.cleanup()

import RPi.GPIO as GPIO # RPi.GPIO can be referred as GPIO from now

import time

ledPin = 22

def setup():

        GPIO.setmode(GPIO.BOARD)

        GPIO.setup(ledPin, GPIO.OUT)

        GPIO.output(ledPin, GPIO.LOW)

def loop():

        while True:

                print 'LED on'

                GPIO.output(ledPin, GPIO.HIGH)

                time.sleep(1.0)

                print 'LED off'

                GPIO.output(ledPin, GPIO.LOW)

                time.sleep(1.0) # wait 1 sec

def endprogram():

        GPIO.output(ledPin, GPIO.LOW)

        GPIO.cleanup()

if \_\_name\_\_ == '\_\_main\_\_': # Program starts from here

        setup()

        try:

                loop()

        except KeyboardInterrupt:

                endprogram()

**//code for traffic light system**

from gpiozero import Button, TrafficLights, Buzzer

from time import sleep

buzzer = Buzzer(15)

button = Button(21)

lights = TrafficLights(25, 8, 7)

while True:

           button.wait\_for\_press()

           buzzer.on()

           light.green.on()

           sleep(1)

           lights.amber.on()

           sleep(1)

           lights.red.on()

           sleep(1)

           lights.off()

           buzzer.off()