

Assignment -3
Python Programming

Assignment Date	08 October 2022
Student Name	Suvatha AS
Student Roll Number	611219106078
Maximum Marks	2 Marks

Question-1:

Write a Python code for Blinking LED and Traffic Light for Raspberry Pi

Solution:

Blinking Of an LED For Raspberry

```
import RPi.GPIO as GPIO

import time

#assign numbering for the GPIO using BCM

GPIO.setmode(GPIO.BCM)

#assignn number for the GPIO using Board

#GPIO.setmode(GPIO.BOARD)

cnt = 0

MAIL_CHECK_FREQ = 1 # change LED status every 1 seconds

RED_LED = 4

GPIO.setup(RED_LED, GPIO.OUT)

while True:

    if cnt == 0 :

        GPIO.output(RED_LED, False)

        cnt = 1

    else:
```

```
GPIO.output(RED_LED, True)

cnt = 0

time.sleep(MAIL_CHECK_FREQ)

GPIO.cleanup()
```

Traffic Light for Raspberry Pi

```
import RPi.GPIO as GPIO
import time

try:
    def lightTraffic(led1, led2, led3, delay ):
        GPIO.output(led1, 1)
        time.sleep(delay)
        GPIO.output(led1, 0)
        GPIO.output(led2, 1)
        time.sleep(delay)
        GPIO.output(led2, 0)
        GPIO.output(led3, 1)
        time.sleep(delay)
        GPIO.output(led3, 0)
    GPIO.setmode(GPIO.BCM)
    button = 19
    GPIO.setup(button, GPIO.IN, pull_up_down=GPIO.PUD_UP)
    ledGreen = 16
    ledYellow = 12
    ledRed = 23
    GPIO.setup(ledGreen, GPIO.OUT)
    GPIO.setup(ledYellow, GPIO.OUT)
    GPIO.setup(ledRed, GPIO.OUT)
    while True:
        input_state = GPIO.input(button)
        if input_state == False:
            print('Button Pressed')
            lightTraffic(ledGreen, ledYellow, ledRed, 1)
```

```
    else:
        GPIO.output(ledGreen, 0)
        GPIO.output(ledYellow, 0)
        GPIO.output(ledRed, 0)
except KeyboardInterrupt:
    print "You've exited the program"
finally:
    GPIO.cleanup()
```