

Assignment - 3

Python Programming

Date	01 October 2022
Student Name	Mr.B.Anandhakrishnan
Student Roll Number	621319106302
Maximum Marks	2 Marks

Question :

Write a python code for Blinking LED and Traffic Lights for Raspberry Pi

Solution :

Blinking LED for Raspberry Pi using Python :

```
import RPi.GPIO as GPIO
from time import sleep
GPIO.setwarnings(False)
GPIO.setmode(GPIO.BOARD)
GPIO.setup(8, GPIO.OUT, initial=GPIO.LOW)
```

while True :

```
    GPIO.output(8, GPIO.HIGH)
    sleep(1)
    GPIO.output(8, GPIO.LOW)
    sleep(1)
```

Traffic Light Concept for Raspberry Pi using Python :

```
import RPi.GPIO as GPIO
import time
GPIO.setmode(GPIO.BOARD)
GPIO.setup(7, GPIO.OUT)
```

```
GPIO.setup(11, GPIO.OUT)
```

```
GPIO.setup(13, GPIO.OUT)
```

```
GPIO.setup(15, GPIO.IN, pull_up_down=GPIO.PUD_UP)
```

```
def turn_on (pin, seconds) :
```

```
    GPIO.output (pin,GPIO.HIGH)
```

```
    time.sleep(seconds)
```

```
def turn_off (pin, seconds) :
```

```
    GPIO.output (pin,GPIO.LOW)
```

```
    time.sleep(seconds)
```

```
try :
```

```
    while True :
```

```
        button_state=GPIO.input (15)
```

```
        if button_state == True :
```

```
            turn_on(13,2)
```

```
            turn_off(13,1)
```

```
            turn_on(7,4)
```

```
            turn_off(7,11)
```

```
            turn_on(11,1)
```

```
            turn_off(11,1)
```

```
else :
```

```
    if button_state == False :
```

```
        GPIO.output (7,GPIO.LOW)
```

```
        GPIO.output(11,GPIO.LOW)
```

```
        GPIO.output (13,GPIO.LOW)
```

```
        time.sleep(.1)
```

```
except KeyboardInterrupt:
```

```
    GPIO.cleanup()
```

```
    print("Traffic Light Operation Completed")
```