

Assignment -3

Python Programming

Assignment Date	5 October 2022
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Maximum Marks	2 Marks

Question-1:

Write python code for blinking LED and Traffic lights for Raspberry pi.

Program for blinking LED:

```
import RPi.GPIO as GPIO
import time
LED_PIN = 17
GPIO.setmode(GPIO.BCM)
GPIO.setup(LED_PIN, GPIO.OUT)
try:
    while True:
        GPIO.output(LED_PIN, GPIO.HIGH)
        time.sleep(1)
        GPIO.output(LED_PIN, GPIO.LOW)
        time.sleep(1)
except KeyboardInterrupt:
    GPIO.cleanup()
```

Program for traffic lights:

```
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()
```