

Assignment - 3
Raspberry Pi Simulation

Assignment Date	26th October 2022
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Maximum Marks	2 Marks

Question:

Write python code for blinking LED and Traffic lights for Raspberry pi. Only python code is enough, no need to execute in raspberry pi.

Solution:

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()

finally:
    GPIO.cleanup()
```

Blinking LED:

```
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)
```