ASSIGNMENT – 3

PYTHON PROGRAMMING WITH RASPBERRY PI

Assignment Date	01 October 2022
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Maximum Marks	2 Marks

Question:

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

Code:

Blinking LED:

```
import RPi.GPIO as GPIO
import time
GPIO.setmode(GPIO.BCM)
cnt = 0
MAIL_CHECK_FREQ = 1
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 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()
```