Assignment -3

Python Programming

Assignment Date	30 September 2022
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Maximum Marks	2 Marks

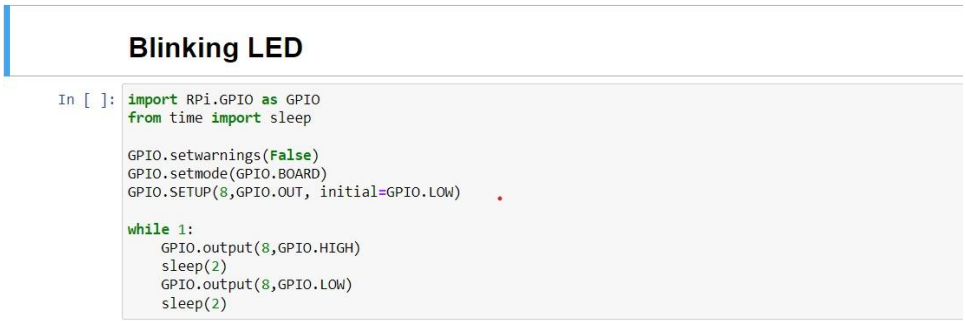
Question 1:

Write python code for blinking LED for Rasberry pi.

Soution:

```
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 1:
    GPIO.output (8, GPIO.HIGH)
    sleep(2)
    GPIO.output (8, GPIO.LOW)
    Sleep(2)
```

Screenshot:



Question-2:

Write a python code for traffic lights for Rasberry pi.

Solution:

```
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')
        light Traffic (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()
```

Traffic Light

In [ ]:

```
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()
```