

Assignment – 3

Python Programming for Raspberry Pi

Assignment Date	10 October 2022
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Maximum Marks	2 Marks

Question-1:

Write python code for blinking LED light for Raspberry pi.

Solution:

```
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)
```

Question-2:

Write python code for Traffic lights for Raspberry 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')
        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()
```