

ASSIGNMENT-3

Assignment date	08 October
Student Name	K Midhun Surya Kalyan
Student Roll Number	110719104028
Maximum Marks	2 Marks

Question:

PYTHON CODE FOR BLINKING LED AND TRAFFIC LIGHTS FOR RASPBERRY PI.

Solution:

For LED:

```
import RPi.GPIO as GPIO                # Import Raspberry Pi GPIO library
from time import sleep                  #Import sleep function from the time
module
GPIO.setwarnings(False) #Ignore warning for now
GPIO.setmode(GPIO.BOARD)               #Use physical pin numbering
GPIO.setup(8,GPIO.OUT,initial=GPIO.LOW)
#Set pin 8 to be an output pin and set initial value to low(off)
while True:                             #Run forever
    GPIO.output(8,GPIO.HIGH)             #Turn on
    sleep(1)                             #Sleep for 1 second
    GPIO.output(8,GPIO.LOW)              #Turn off
    sleep(1)                             #Sleep for 1 second
```

For Traffic Lights:

```
import Rpi.GPIO as GPIO
import time
import signal
import sys

#Setup
GPIO.setmode(GPIO.BCM)
GPIO.setup(9,GPIO.OUT)
GPIO.setup(10,GPIO.OUT)
GPIO.setup(11,GPIO.OUT)

#Turn off all lights when user ends demo
def allLightsOff(signal,framer):
    GPIO.output(9,False)
    GPIO.output(10,False)
    GPIO.output(11,False)
    GPIO.cleanup()
    sys.exit(0)
signal.signal(signal.SIGINT,allLightsOff)

#Loop forever
while True:
    #Red
    GPIO.output(9,True)
```

```
Time.sleep(3)
```

```
#Red and amber
```

```
GPIO.output(10,True)
```

```
Time.sleep(1)
```

```
#Green
```

```
GPIO.output(9,False)
```

```
GPIO.output(10,False)
```

```
GPIO.output(11,True)
```

```
Time.sleep(5)
```

```
#Amber
```

```
GPIO.output(11,False)
```

```
GPIO.output(10,True)
```

```
Time.sleep(2)
```

```
#Amber off(red comes on at top of loop)
```

```
GPIO.output(10,False)
```