

ASSIGNMENT-3

PYTHON CODE FOR BLINKING LED AND TRAFFIC LIGHTS FOR RASPBERRY PI

For LED:

```
import RPi.GPIO as GPIO                                # Import Raspberry Pi GPIO
library                                                  library
from time import sleep                                  #Import sleep function from the
time module                                              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)
```