

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