

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                                                  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)
```