

**Assignment -3**  
Python Programming

**Question-1:**

Write a Python code for Blinking LED and Traffic Light for Raspberry Pi

**Solution:****Blinking Of an LED For Raspberry Pi**

```
import RPi.GPIO as GPIO
import time
#assign numbering for the GPIO using BCM
GPIO.setmode(GPIO.BCM)
#assign number for the GPIO using Board
GPIO.setmode(GPIO.BOARD)

cnt = 0
MAIL_CHECK_FREQ = 1 # change LED status every 1 seconds
RED_LED = 4
GPIO.setup(RED_LED, GPIO.OUT)
while True:
    if cnt == 0 : GPIO.output(RED_LED, False)
    cnt = 1
    else: GPIO.output(RED_LED, True)
    cnt = 0

    time.sleep(MAIL_CHECK_FREQ)
GPIO.cleanup()
```

**Traffic Light for Raspberry Pi**

```
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, frame):
    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)
```