

Assignment -3
Python Programming

Assignment Date	21 October 2022
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Maximum Marks	2 Marks

Question-1:

Write a python program to blink LED using Raspberry pi

Solution:

```
import
RPi.GPIO
as GPIO

import time
import signal
import sys
GPIO.setmode(GPIO.BCM)
GPIO.setup(9, GPIO.OUT)
GPIO.setup(10, GPIO.OUT)
GPIO.setup(11, GPIO.OUT)
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)
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)
```

Question-2:

Python program to implement traffic light system in Raspberry pi.

Solution:

```
from gpiozero import Button, TrafficLights, Buzzer
from time import sleep

buzzer = Buzzer(15)
button = Button(21)
lights = TrafficLights(25, 8, 7)

while True:
    button.wait_for_press()
    buzzer.on()
    light.green.on()
    sleep(1)
    lights.amber.on()
    sleep(1)
    lights.red.on()
    sleep(1)
    lights.off()
    buzzer.off()
```