

Assignment -3

Question-1:

Write python code for blinking LED and Traffic lights for Raspberry pi. Only python code is enough, no need to execute in raspberry pi.

Solution :

Traffic Light :

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

```
from time import sleep
```

```
lights = TrafficLights(25, 8, 7)
```

```
while True:
```

```
    button.wait_for_press()
```

```
    lights.on()
```

```
    button.wait_for_release()
```

```
    lights.off()
```

```
buzzer = Buzzer(15)
```

```
while True:
```

```
    lights.blink()
```

```
    buzzer.beep()
```

```
    button.wait_for_press()
```

```
    lights.off()
```

```
    buzzer.off()
```

```
    button.wait_for_release()
```

```
while True:
```

```
    button.wait_for_press()
```

```
    lights.green.on()
```

```
    sleep(1)
```

```
lights.amber.on()
sleep(1)
lights.red.on()
sleep(1)
lights.off()
```

Led Blinking :

```
import RPi.GPIO as GPIO
import time
```

```
ledPin = 22
```

```
def setup():
```

```
    GPIO.setmode(GPIO.BOARD)
    GPIO.setup(ledPin, GPIO.OUT)
    GPIO.output(ledPin, GPIO.LOW)
```

```
def loop():
```

```
    while True:
        print 'LED on'
        GPIO.output(ledPin, GPIO.HIGH)
        time.sleep(1.0)
        print 'LED off'
        GPIO.output(ledPin, GPIO.LOW)
        time.sleep(1.0)
```

```
def endprogram():
```

```
    GPIO.output(ledPin, GPIO.LOW)
    GPIO.cleanup()
```

```
if __name__ == '__main__':
```

```
setup()
```

```
try:
```

```
    loop()
```

```
except KeyboardInterrupt:
```

```
    endprogram()
```