

### Assignment -3

Assignment Date	22 October 2022
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Maximum Marks	2 Marks

#### 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).

```
import RPi.GPIO as GPIO
import time

GPIO.setmode(GPIO.BOARD)
GPIO.setup(7, GPIO.OUT) #Green LED
GPIO.setup(11, GPIO.OUT)#Yellow LED
GPIO.setup(13, GPIO.OUT) #Red LED
GPIO.setup(15, GPIO.IN, pull_up_down=GPIO.PUD_UP)#Button

def turn_on(pin, seconds):
    GPIO.output (pin,GPIO.HIGH)
    time.sleep(seconds)

def turn_off (pin, seconds):
    GPIO.output (pin, GPIO.LOW)
    time.sleep(seconds)

try:
    while True:
        button_state=GPIO.input (15)
        if button_state== True:
            turn_on(13,2)
            turn_off(13,.1)
            turn_on(7,4)
            turn_off(7,.11)
            turn_on(11,1)
            turn_off(11,1)
        else:
            if button_state== False:
                GPIO.output (7,GPIO.LOW)
                GPIO.output(11,GPIO.LOW)
                GPIO.output (13,GPIO.LOW)
                time.sleep(.1)
except KeyboardInterrupt:
    GPIO.cleanup()
print("Traffic Light Sequence Done")
```

## Output

```
Python 3.7.4 Shell - C:/Python/Python37/dwstd.py (3.7.4)
File Edit Shell Debug Options Window Help
Python 3.7.4 (tags/v3.7.4:e09359112e, Jul 8 2019, 20:34:20) [MSC v.1916 64 bit (AMD64)] on win32
Type "help", "copyright", "credits" or "license()" for more information.
>>> import RPi.GPIO as GPIO
import time

GPIO.setmode(GPIO.BOARD)
GPIO.setup(7, GPIO.OUT) #Green LED
GPIO.setup(11, GPIO.OUT) #Yellow LED
GPIO.setup(13, GPIO.OUT) #Red LED
GPIO.setup(15, GPIO.IN, pull_up_down=GPIO.PUD_UP) #Button
def turn_on(pin, seconds):
    GPIO.output (pin,GPIO.HIGH)
    time.sleep(seconds)
def turn_off (pin, seconds):
    GPIO.output (pin, GPIO.LOW)
    time.sleep(seconds)
try:
    while True:
        button_state=GPIO.input (15)
        if button_state== True:
            turn_on(13,2)
            turn_off(13,.1)
            turn_on(7,4)
            turn_off(7,.11)
            turn_on(11,1)
            turn_off(11,.1)
except KeyboardInterrupt:
    pass
```