

ASSIGNMENT-3
Python Programming

Assignment Date	02 October 2022
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Maximum Marks	2

Question:

Write python code for blinking LED and Traffic lights for Raspberry pi.

Blinking LED:

```
import time
import RPi.GPIO as GPIO    ## Import GPIO library
GPIO.setmode(GPIO.BOARD)   ## Use board pin numbering
GPIO.setup(11, GPIO.OUT)   ## Setup GPIO Pin 11 to OUT
while True:
    GPIO.output(11,True)    ## Turn on Led
    time.sleep(1)           ## Wait for one second
    GPIO.output(11,False)   ## Turn off Led
    time.sleep(1)           ## Wait for one second
```

Traffic Lights:

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)