

ASSIGNMENT-3

Assignment date	01 October 2022
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Maximum marks	2 Marks

PYTHON CODE FOR BLINKING LED AND TRAFFIC LIGHTS FOR RASPBERRY PI

For LED:

```
import RPi.GPIO as GPIO                                # Import Raspberry Pi GPIO
library                                                library

from time import sleep                                #Import sleep function from the
time module                                           time module

GPIO.setwarnings(False)                               #Ignore warning for now

GPIO.setmode(GPIO.BOARD)                             #Use physical pin numbering

GPIO.setup(8,GPIO.OUT,initial=GPIO.LOW)

#Set pin 8 to be an output pin and set initial value to low(off)

while True:                                           #Run forever

    GPIO.output(8,GPIO.HIGH)                          #Turn on

    sleep(1)                                           #Sleep for 1 second

    GPIO.output(8,GPIO.LOW)                          #Turn off

    sleep(1)                                           #Sleep for 1 second
```

For Traffic Lights:

```
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,framer):
    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)
```