

Assignment -3

Name	Dhanasekar A
Register Number	714019106018

Question:

Write a python code for blinking LED and Traffic Lights for Raspberry Pi

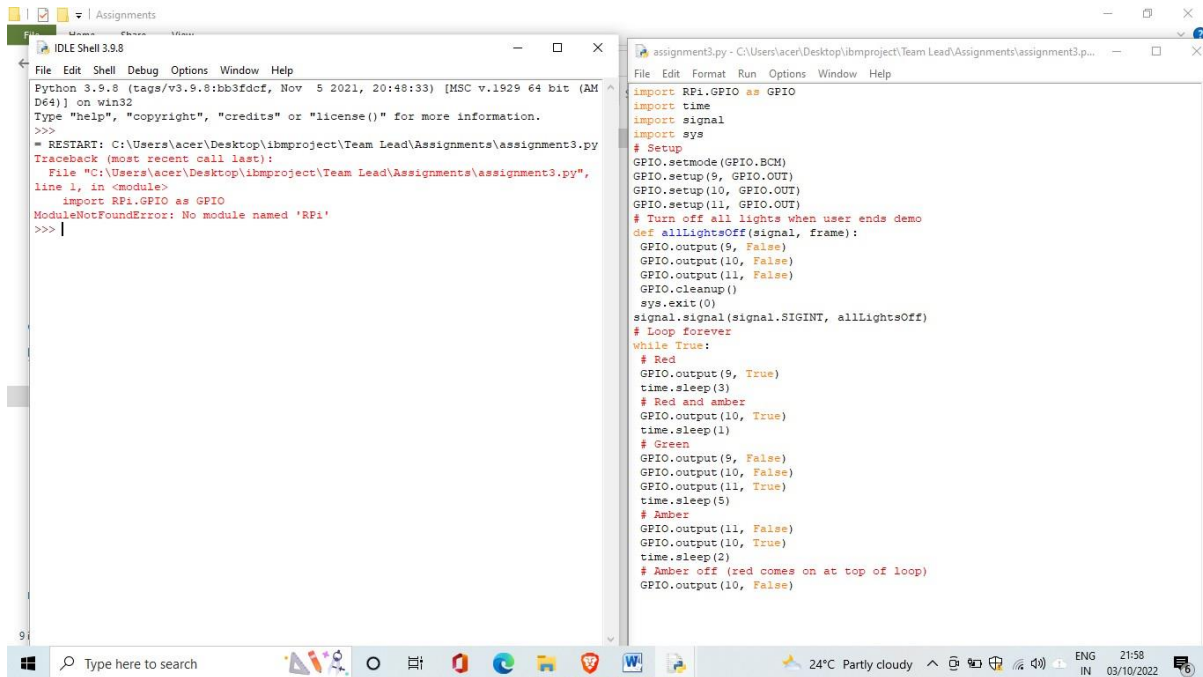
Code:

```
import RPi.GPIO as GPIO # Import Raspberry Pi GPIO library
from time import sleep # Import the sleep function from the 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
    onsleep(1) # Sleep for 1 second
    GPIO.output(8, GPIO.LOW) # Turn
    offsleep(1) # Sleep for 1 second

#Traffic lights for Raspberry
Piimport RPi.GPIO as GPIO
import time
import signal
import sys
# Setup
GPIO.setmode(GPIO.BC
M)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)
```

Output:



The image shows two windows from a Windows desktop. The left window is titled 'IDLE Shell 3.9.8' and displays the output of a Python script execution. It shows a restart of the shell, a traceback indicating a 'ModuleNotFoundError: No module named 'RPi'', and the user's prompt '>>>'. The right window is titled 'assignment3.py - C:\Users\acer\Desktop\ibmp\project\Team Lead\Assignments\assignment3.p...' and displays the source code of the script. The code imports RPi.GPIO as GPIO, time, signal, and sys. It sets up GPIO mode (GPIO.BCM), configures pins 9, 10, and 11 as outputs, and defines a function 'allLightsOff' that turns off all lights. The script then enters a loop that turns on the red light (pin 9) for 3 seconds, then the red and amber lights (pins 9 and 10) for 1 second, then the green light (pin 11) for 5 seconds, then the amber light (pin 11) for 2 seconds, and finally turns off the amber light (pin 10) before looping back.

```
Python 3.9.8 (tags/v3.9.8:bb3fdecf, Nov 5 2021, 20:48:33) [MSC v.1929 64 bit (AMD64)] on win32
Type "help", "copyright", "credits" or "license()" for more information.
>>>
*= RESTART: C:\Users\acer\Desktop\ibmp\project\Team Lead\Assignments\assignment3.py
Traceback (most recent call last):
  File "C:\Users\acer\Desktop\ibmp\project\Team Lead\Assignments\assignment3.py",
    line 1, in <module>
      import RPi.GPIO as GPIO
ModuleNotFoundError: No module named 'RPi'
>>>

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, 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)
```