ASSIGNMENT-3

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Date	04-10-2022
Team ID	PNT2022TMID47600
Project Name	Real-Time River Water Quality Monitoring and Control System
Maximum Marks	2 Marks

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

CODE:

1. PYTHON CODE FOR BLINKING LED

```
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 on

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

1. PYTHON CODE FOR TRAFFIC LIGHT

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

Sleep (1) # Sleep for 1 second

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)
```