ASSIGNMENT 3

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Project Name	Real-Time River Water Quality Monitoring and Control System.

1.**PYTHON CODE FOR BLINKING LED FOR RASPBERRY PI.**

```
import RPi.GPIO as GPIO
import time
GPIO.setmode(GPIO.BCM)
cnt = 0
MAIL_CHECK_FREQ = 1 # change LED status every 1
seconds
RED_LED = 4
GPIO.setup(RED_LED,
GPIO.OUT)   while True:   ifcnt
== 0 :
GPIO.output(RED_LED,
False)   cnt = 1   else:
GPIO.output(RED_LED, True)
cnt = 0
time.sleep(MAIL_CHECK_FRE
Q)
GPIO.cleanup()
```

2.PYTHON CODE FOR TRAFFIC LIGHTS FOR RASPBERRY PI import RPi.GPIO as GPIO import time

try: def lightTraffic(led1, led2, led3, delay):

GPIO.output(led1, 1) time.sleep(delay)

GPIO.output(led1, 0)

GPIO.output(led2, 1)

time.sleep(delay)

GPIO.output(led2, 0)

GPIO.output(led3, 1)

time.sleep(delay)

GPIO.output(led3, 0)

GPIO.setmode(GPIO.BCM)

button = 19

GPIO.setup(button, GPIO.IN,

pull_up_down=GPIO.PUD_UP) ledGreen = 17

ledYellow = 12 ledRed = 23

GPIO.setup(ledGreen, GPIO.OUT)

GPIO.setup(ledYellow, GPIO.OUT)

GPIO.setup(ledRed, GPIO.OUT)

while True:

input_state = GPIO.input(button)

if input_state == False:

print('Pressed the button')

```
lightTraffic(ledGreen, ledYellow,
ledRed, 1)        else:
            GPIO.output(ledGreen, 0)
            GPIO.output(ledYellow,
0)            GPIO.output(ledRed,
0) except KeyboardInterrupt:
    print
    "You exited the program"
finally:
    GPIO.cleanup()
```