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.B
CM) 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_F
REQ) GPIO.cleanup()
```

1. PYTHON CODE FOR TRAFFIC LIGHTS FOR RASPBERRY PI

```python
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.B
  CM) button = 19
  GPIO.setup(button, GPIO.IN,
  pull_up_down=GPIO.PUD_UP) ledGreen = 16
  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('The Button Pressed')
    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()
```