IBM-Nallaiya Thiran Project
Assignment – 3

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Q) Write python code for blinking LED and Traffic Light for Rasberry pi.

- **LED Light :**

Source Code:

```
import RPi.GPIO as GPIO # RPi.GPIO can be referred as GPIO from now
import time
ledPin = 22    # pin22
def setup():
    GPIO.setmode(GPIO.BOARD)      # GPIO Numbering of Pins
    GPIO.setup(ledPin, GPIO.OUT)   # Set ledPin as output
    GPIO.output(ledPin, GPIO.LOW)  # Set ledPin to LOW to turn Off the
LED
def loop():
    while True:
        print 'LED on'
        GPIO.output(ledPin, GPIO.HIGH)   # LED On
        time.sleep(1.0)              # wait 1 sec
        print 'LED off'
        GPIO.output(ledPin, GPIO.LOW)   # LED Off
        time.sleep(1.0)              # wait 1 sec
def endprogram():
    GPIO.output(ledPin, GPIO.LOW)     # LED Off
    GPIO.cleanup()                # Release resources
if _name_ == '_main_':       # Program starts from here
    setup()
    try:
        loop()
```

```
    except KeyboardInterrupt:  # When 'Ctrl+C' is pressed, the destroy() will be  executed.
        endprogram()
```

- **Traffic Lights**

Source Code:

```
import RPi.GPIO as GPIO
import time
import signal
import sys
GPIO.setmode(GPIO.BCM)
GPIO.setup(9, GPIO.OUT)
GPIO.setup(10, GPIO.OUT)
GPIO.setup(11, GPIO.OUT)
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)
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)
```