IBM – Nallaiya Thiran Project

Assignment 3

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Problem:

Write a Python code for blinking LED for Raspberry Pi

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()
```

Problem:

Write a Python code for Traffic lights for Raspberry Pi

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)
```