IBM-Nalaiya Thiran Project

Assignment-3

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1). Write python code for blinking LED for Ras berry 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()
```

2). Write python code for traffic lights using Ras berry 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)
```