IBM- Project Assignment3

Premal Raj Vellaisamy
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1.Write python code for blinking LED for Rasberry Pi.

Source Code:

```
import RPi.GPIO as
GPIOimport time

ledPin = 22   # pin22

def setup():
    GPIO.setmode(GPIO.BOARD)
    GPIO.setup(ledPin, GPIO.OUT)
    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
        Ontime.sleep(1.0)          # wait 1 sec
        print 'LED off'
        GPIO.output(ledPin, GPIO.LOW) # LED
        Offtime.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 Rasberry Pi.

Source Code:

```
import RPi.GPIO as
GPIOimport time
import signal
import sys
GPIO.setmode(GPIO.BC
M)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 Colour
  GPIO.output(9,
  True)time.sleep(3)
  # Red and amber
  GPIO.output(10,
  True)time.sleep(1)
  # Green colour
  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)
```