**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)