

ASSIGNMENT 3

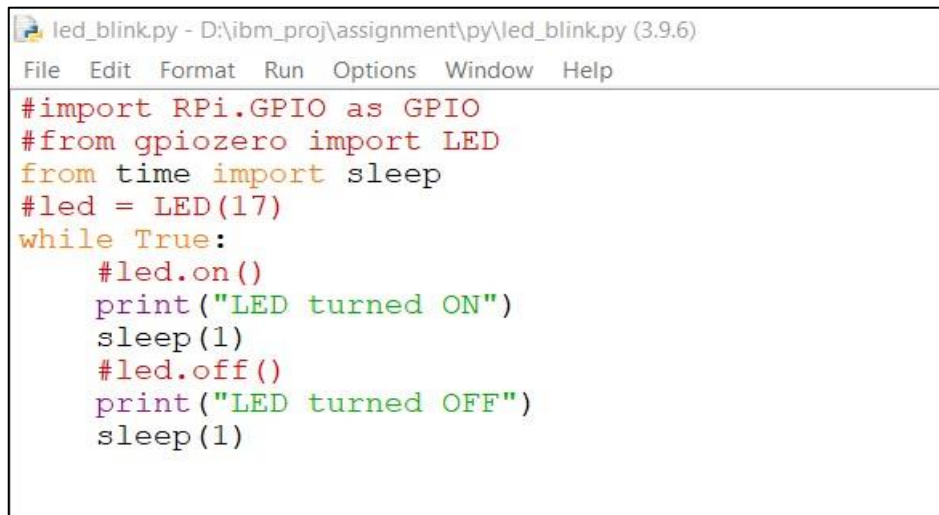
Date	04 October 2022
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Roll Number	718020L435
Project Name	Project – Smart Farmer-IoT Enabled Smart Farming Application
Maximum Marks	2 Marks

Write a python code for blinking LED and Traffic Lights for Raspberry Pi.

(i) Python Code for Blinking LED:

```
#import RPi.GPIO as GPIO #from gpiozero import LED from time import sleep #led = LED(17) while
True: #led.on() print("LED turned ON") sleep(1) #led.off() print("LED turned OFF")
sleep(1)
```

Editor Window:



```
led_blink.py - D:\ibm_proj\assignment\py\led_blink.py (3.9.6)
File Edit Format Run Options Window Help

#import RPi.GPIO as GPIO
#from gpiozero import LED
from time import sleep
#led = LED(17)
while True:
    #led.on()
    print("LED turned ON")
    sleep(1)
    #led.off()
    print("LED turned OFF")
    sleep(1)
```

Output Window:



```
*IDLE Shell 3.9.6*
File Edit Shell Debug Options Window Help

LED turned ON
LED turned OFF
LED turned ON
LED turned OFF
LED turned ON
LED turned OFF
LED turned ON
LED turned OFF
LED turned ON
LED turned OFF
LED turned ON
LED turned OFF
LED turned ON
LED turned OFF
LED turned ON
LED turned OFF
LED turned ON
LED turned OFF
LED turned ON
LED turned OFF
```

:

ii) Python Code for Traffic Lights

```
import RPi.GPIO as GPIO
import time
import signal
import sys

#setup
GPIO.setmode(GPIO.BCM)
GPIO.setup(9, GPIO.OUT)
GPIO.setup(10, GPIO.OUT)
GPIO.setup(11, GPIO.OUT)

#Turn off all lights
def allLightOff(signal, frame):
    GPIO.output(9, False)
    GPIO.output(10, False)
    GPIO.output(11, False)
    GPIO.cleanup()
    sys.exit(0)
signal.signal(signal.SIGINT, allLightOff)

#Forever Loop
while True:
    #Red
    GPIO.output(9, True)
    time.sleep(3)
    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
    GPIO.output(10, False)
```