IOT - REAL-TIME RIVER WATER QUALITY MONITORING AND CONTROL SYSTEM

ASSIGNMENT - 3

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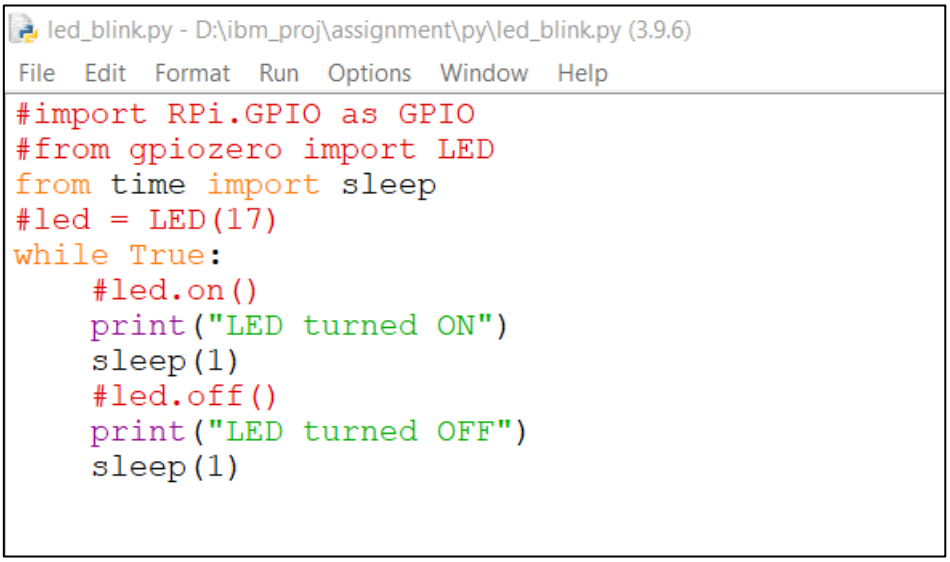
Write a python code for blinking LED and Traffic Lights for Raspberry Pi.

(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:



Output Window:

(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, allLightsOff)
#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)

Editor Window:

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import time
import signal
import sys
#setup
GPIO.setmode(GPIO.BCM)
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def allLightOff(signal, frame):
    GPIO.output(9,False)
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    sys.exit(0)
signal.signal(signal.SIGINT, allLightsOff)
#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)
```