Develop a Python Script

Team ID	PNT2022TMID34114
Project Name	Smart Waste Management for Metropolitan Cities

STEPS:

1.Open python IDLE

2.Click new file and type the program

3.Save it and click on run ,then run module

4.Output will be appeared in the IDLE window.

PYTHON SCRIPT:

```
import requests
import json
import ibmiotf.application
import ibmiotf.device
import time
import random
import sys
# watson device details
organization = "j5bxb7"
devicType = "IOT123edevicetype"
deviceId = "IOTece4"
authMethod= "token"
authToken= "e2)-17xkqIFMvm3@ll"
#generate random values for randomo variables (temperature&humidity)
def myCommandCallback(cmd):
   global a
   print("command recieved:%s" %cmd.data['command'])
   control=cmd.data['command']
   print(control)
try:
      deviceOptions={"org": organization, "type": devicType,"id": deviceId,"auth-
method":authMethod,"auth-token":authToken}
      deviceCli = ibmiotf.device.Client(deviceOptions)
```

```
except Exception as e:
        print("caught exception connecting device %s" %str(e))
        sys.exit()
#connect and send a datapoint "temp" with value integer value into the cloud as a type of event for every 10 seconds
deviceCli.connect()
while True:
    distance= random.randint(10,70)
    loadcell= random.randint(5,15)
    data= {'dist':distance,'load':loadcell}

    if loadcell < 13 and loadcell > 15:
        load = "90 %"

    elif loadcell < 8 and loadcell > 12:
        load = "60 %"

    elif loadcell < 4 and loadcell > 7:
        load = "40 %"
    else:
        load = "0 %"

    if distance < 15:
        dist = 'Risk warning:' 'Dumpster poundage getting high, Time to collect :) 90 %'


    elif distance < 40 and distance >16:
        dist = 'Risk warning:' 'dumpster is above 60%'

    elif distance < 60 and distance > 41:
        dist = 'Risk warning:' '40 %'
    else:
        dist = 'Risk warning:' '17 %'
```

```
    if load == "90 %" or distance == "90 %":
        warn = 'alert :' ' Dumpster poundage getting high, Time to collect :)'

    elif load == "60 %" or distance == "60 %":

        warn = 'alert :' 'dumpster is above 60%'
    else :
        warn = 'alert :' 'No need to collect right now '
    def myOnPublishCallback(lat=10.678991,long=78.177731):
        print("Gandigramam, Karur")
        print("published distance = %s " %distance,"loadcell:%s " %loadcell,"lon = %s " %long,"lat = %s"
%lat)
        print(load)
        print(dist)
        print(warn)

    time.sleep(10)



    success=deviceCli.publishEvent ("IoTSensor","json",warn,qos=0,on_publish=
myOnPublishCallback)

    success=deviceCli.publishEvent ("IoTSensor","json",data,qos=0,on_publish= myOnPublishCallback)



    if not success:
        print("not connected to ibmiot")
    time.sleep(30)
```

deviceCli.commandCallback=myCommandCallback

#disconnect the device

deviceCli.disconnect

OUTPUT:

spr4.py - C:/Users/ELCOT/AppData/Local/Programs/Python/Python37/spr4.py (3.7.0)

File Edit Format Run Options Window Help

```
import ibmiotf.device
import time
import random
import sys
# watson device details
organization = "j5bxb7"
devicType = "IOT123edevicetype"
deviceId = "IOTece4"
authMethod= "token"
authToken= "e2)-l7xkqIFMvm3@lI"
#generate random values for randomo variables (temperature&humic
def myCommandCallback(cmd):
    global a
    print("command recieved:%s" %cmd.data['command'])
    control=cmd.data['command']
    print(control)
try:
        deviceOptions={"org": organization, "type": devicType,"i
        deviceCli = ibmiotf.device.Client(deviceOptions)
except Exception as e:
        print("caught exception connecting device %s" %str(e))
        sys.exit()
#connect and send a datapoint "temp" with value integer value ir
deviceCli.connect()
while True:
    distance= random.randint(10,70)
    loadcell= random.randint(5,15)
    data= {'dist':distance,'load':loadcell}

    if loadcell < 13 and loadcell > 15:
        load = "90 %"

    elif loadcell < 8 and loadcell > 12:
        load = "60 %"

    elif loadcell < 4 and loadcell > 7:
        load = "40 %"
    else:
```

Python 3.7.0 Shell

File Edit Shell Debug Options Window Help

```
>>>
=== RESTART: C:/Users/ELCOT/AppData/Local/Programs/Python/Python37/spr
2022-11-15 20:06:50,185   ibmiotf.device.Client      INFO    Connected
lly: d:j5bxb7:IOT123edevicetype:IOTece4
Gandigramam, Karur
published distance = 45  loadcell:15  lon = 78.177731  lat = 10.678991
0 %
Risk warning:40 %
alert :No need to collect right now
Gandigramam, Karur
published distance = 45  loadcell:15  lon = 78.177731  lat = 10.678991
0 %
Risk warning:40 %
alert :No need to collect right now
Gandigramam, Karur
published distance = 53  loadcell:5  lon = 78.177731  lat = 10.678991
0 %
Risk warning:40 %
alert :No need to collect right now
Gandigramam, Karur
published distance = 53  loadcell:5  lon = 78.177731  lat = 10.678991
0 %
Risk warning:40 %
alert :No need to collect right now
Gandigramam, Karur
published distance = 33  loadcell:10  lon = 78.177731  lat = 10.678991
0 %
Risk warning:dumpster is above 60%
alert :No need to collect right now
Gandigramam, Karur
published distance = 33  loadcell:10  lon = 78.177731  lat = 10.678991
0 %
Risk warning:dumpster is above 60%
alert :No need to collect right now
Gandigramam, Karur
published distance = 20  loadcell:14  lon = 78.177731  lat = 10.678991
```