Develop a python script

Team ID	PNT2022TMID01046
Project Name	Smart waste management system for metropolitan cities

Step 1: Open python idle
Step2: Type the program
Step 3: Then click on file and save the document
Step 4: Then click on Run then Run Module
Step 5: output will be appeared in the idle window

Python script

```
// Project: Smart Waste Management
// Team ID: PNT2022TMID01046
import requests
import json
import ibmiotf.application
import ibmiotf.device
import time
import random
import sys

# watson device details

organization = "ms9s4l"
devicType = "BIN1"
deviceId = "BIN1ID"
authMethod= "token"
authToken= "123456789"
```

```python
#generate random values for randomo variables for distance and loadcell



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 "distance and loadcell" 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 :' 'Risk Warning: 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=10.939091,long=78.135731):
        print("Chennai")
        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(10)




    deviceCli.commandCallback=myCommandCallback
#disconnect the device
deviceCli.disconnect()
```

Screenshots Python script:

bin4.py - C:\Users\aksha\OneDrive\Desktop\bin4.py (3.7.8)

File Edit Format Run Options Window Help

```python
# Project : Smart Waste Management
# Team ID : PNT2022TMID01046
import requests
import json
import ibmiotf.application
import ibmiotf.device
import time
import random
import sys

# watson device details

organization = "ms9s41"
devicType =  "BIN1"
deviceId = "BIN1ID"
authMethod= "token"
authToken= "123456789"

#generate random values for randomo variables for distance and loadcell



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":au
        deviceCli = ibmiotf.device.Client(deviceOptions)
except Exception as e:
        print("caught exception connecting device %s" %str(e))
        sys.exit()

#connect and send a datapoint "distance and loadcell" with value integer value into the clouc
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 = "00 %"
```

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Python 3.7.8 Shell

File Edit Shell Debug Options Window Help

```
Python 3.7.8 (tags/v3.7.8:4b47a5b6ba, Jun 28 2020, 08:53:46) [MSC v.1916 64 bit (AMD64)] on
win32
Type "help", "copyright", "credits" or "license()" for more information.
>>>
=============== RESTART: C:\Users\aksha\OneDrive\Desktop\bin4.py ===============
2022-11-12 09:56:00,870   ibmiotf.device.Client      INFO    Connected successfully: d:ms9s4
1:BIN1:BIN1ID
Chennai
published distance = 38  loadcell:10  lon = 78.135731  lat = 10.939091
0 %
Risk warning:dumpster is above 60%
alert :No need to collect right now
Chennai
published distance = 38  loadcell:10  lon = 78.135731  lat = 10.939091
0 %
Risk warning:dumpster is above 60%
alert :No need to collect right now
Chennai
published distance = 38  loadcell:12  lon = 78.135731  lat = 10.939091
0 %
Risk warning:dumpster is above 60%
alert :No need to collect right now
Chennai
published distance = 38  loadcell:12  lon = 78.135731  lat = 10.939091
0 %
Risk warning:dumpster is above 60%
alert :No need to collect right now
```

Ln: 5 Col: 0

27°C Rain off and on Search ENG IN 09:56 12-11-2022