Develop a Python Script

Team ID	**PNT2022TMID13889**
Project Name	**Smart Waste Management System inMetropolitan Cities.**

Step 1 : Open Python IDLE

Step 2 :Type the program

Step 3 : Then Click on file & Save the document.

Step 4 : Then click on Run, Click run module.

Step 5 : Output will be appeared in the IDLE Window.

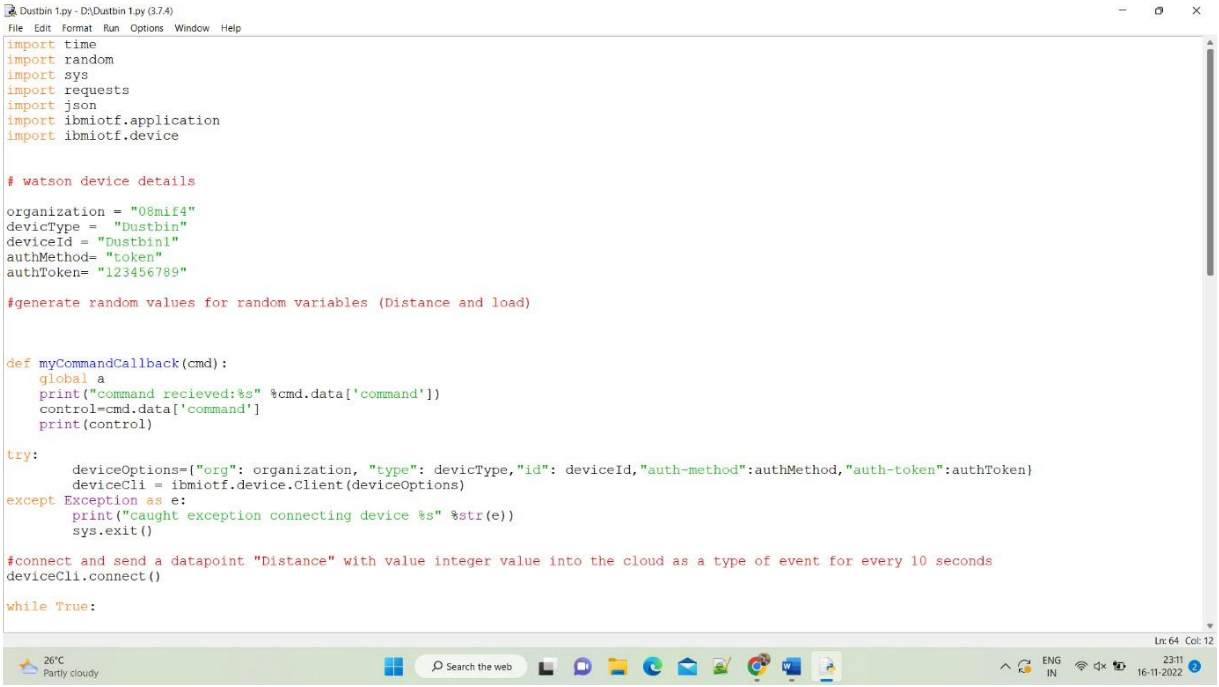
Python Script :

```
import time
import random
import sys
import requests
import json
import ibmiotf.application
import ibmiotf.device


# watson device details

organization = "08mif4"
devicType = "Dustbin"
deviceId = "Dustbin1"
authMethod= "token"
authToken= "123456789"

#generate random values for random variables (Distance and load)
```

```
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" with value integer value into the cloud as a type of event for every 10 seconds
deviceCli.connect()

while True:

    Distance= random.randint(1,75)
    Loadcell= random.randint(0,20)
    data= {'dist':Distance,'load':Loadcell}
    if Loadcell<5 and Loadcell>0:
        load="20%"
    elif Loadcell<10 and Loadcell>5:
        load="40%"
```

```
elif Loadcell<15 and Loadcell>10:
    load="60%"
elif Loadcell<18 and Loadcell>15:
    load="80%"
elif Loadcell<20 and Loadcell>18:
    load="90%"
else:
    load="100%"

if Distance<7 and Distance>1:
    level="90%"
elif Distance<15 and Distance>7:
    level="80%"
elif Distance<30 and Distance>15:
    level="60%"
elif Distance<45 and Distance>30:
    level="40%"
elif Distance<60 and Distance>45:
    level="20%"
elif Distance<75 and Distance>60:
    level="10%"
else:
    level="0%"

if level=="90%" or load=="90%":
      warn="Alert:''Dustbin is almost filled"
else:
      warn=''
    def myOnPublishCallback(latitude=10.9368,longitude=78.1366):
        print("Anna Nagar,Madurai,Tamilnadu")
        print("published Level of bin = %s " %level,"Load = %s " %load, "Latitude = %s " %latitude,"Longitude = %s " %longitude)
        print(load)
        print(level)
        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(20)




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

Code Snap :


Dustbin 1.py - D:\Dustbin 1.py (3.7.4)
File Edit Format Run Options Window Help
Ln: 64 Col: 12
26°C
Partly cloudy
Search the web
ENG
IN
23:11
16-11-2022

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import sys
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import ibmiotf.device


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devicType =  "Dustbin"
deviceId = "Dustbin1"
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authToken= "123456789"

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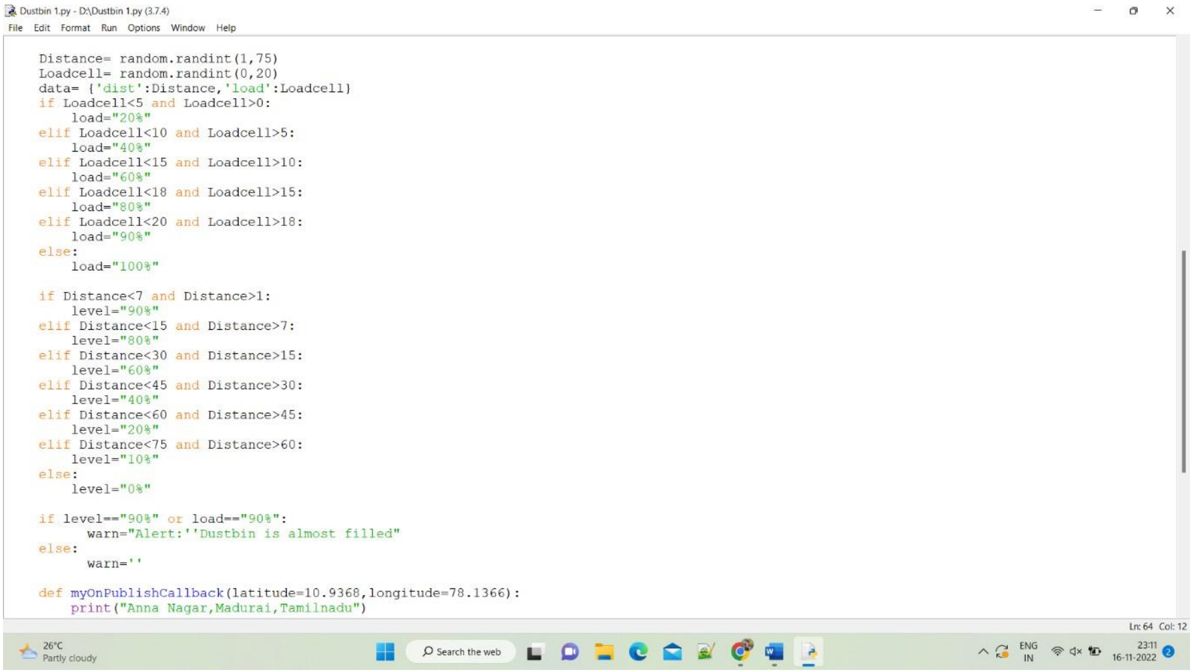
Dustbin 1.py - D:\Dustbin 1.py (3.7.4)
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        print("Anna Nagar,Madurai,Tamilnadu")
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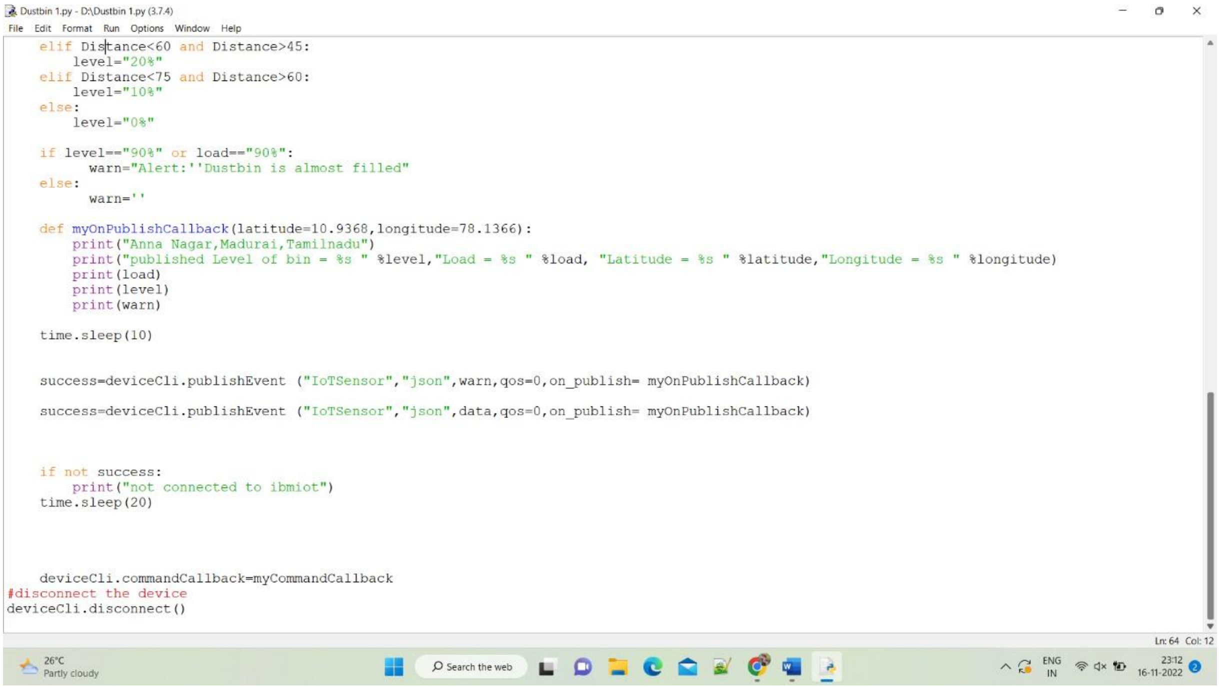

Dustbin 1.py - D:\Dustbin 1.py (3.7.4)
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        print("Anna Nagar,Madurai,Tamilnadu")
        print("published Level of bin = %s " %level,"Load = %s " %load, "Latitude = %s " %latitude,"Longitude = %s " %longitude)
        print(load)
        print(level)
        print(warn)

    time.sleep(10)


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

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    if not success:
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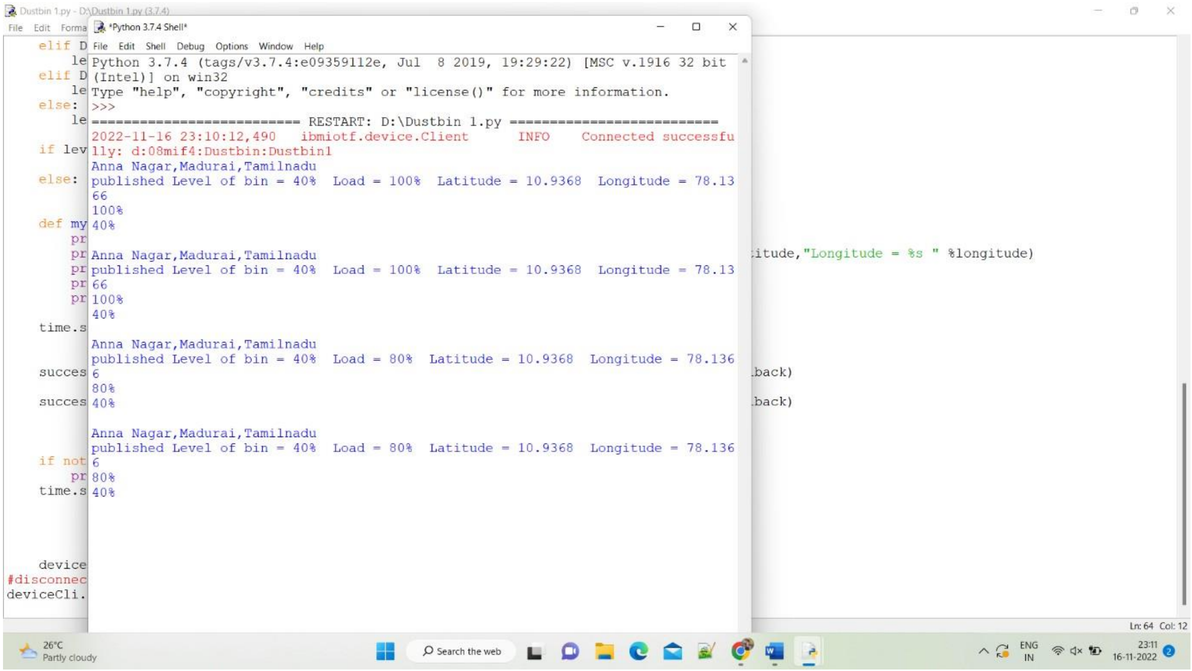
OUTPUT :



```
Python 3.7.4 (tags/v3.7.4:e09359112e, Jul  8 2019, 19:29:22) [MSC v.1916 32 bit
(Intel)] on win32
Type "help", "copyright", "credits" or "license()" for more information.
>>>
========================== RESTART: D:\Dustbin 1.py ==========================
2022-11-16 23:10:12,490   ibmiotf.device.Client      INFO    Connected successfu
lly: d:08mif4:Dustbin:Dustbin1
Anna Nagar,Madurai,Tamilnadu
published Level of bin = 40%  Load = 100%  Latitude = 10.9368  Longitude = 78.13
66
100%
40%

Anna Nagar,Madurai,Tamilnadu
published Level of bin = 40%  Load = 100%  Latitude = 10.9368  Longitude = 78.13
66
100%
40%

Anna Nagar,Madurai,Tamilnadu
published Level of bin = 40%  Load = 80%  Latitude = 10.9368  Longitude = 78.136
6
80%
40%

Anna Nagar,Madurai,Tamilnadu
published Level of bin = 40%  Load = 80%  Latitude = 10.9368  Longitude = 78.136
6
80%
40%
```