SPRINT-1

Date	15 November 2022
Team ID	PNT2022TMID42807
Project Name	Project - Smart waste management system for metropolitan cities

PYTHON CODE AND SIMULATION OUTPUT

Code:

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



organization = "kvnnui"
deviceType="swm"
deviceId="1234"
authMethod="token"
authToken="987654321"



def myCommandCallback(cmd):
   global a
   print("Command received: %s" %cmd.data['command'])
```

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    control=cmd.data['command']
    print(control)

try:
    deviceOptions = {"org": organization, "type": deviceType, "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()

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 = 'Warning:' 'Trash is  getting high, Time to collect 90 %'



elif distance < 40 and distance >16:
    dist = 'Warning:' 'Trash is above 70 %'

elif distance < 60 and distance > 41:
    dist = 'Warning:' '40 %'
else:
    dist = 'Warning:' '17 %'




if load == "90 %" or distance == "90 %":
    warn = 'alert:' ' Warning: Trash poundage getting high, Time to collect'

elif load == "60%" or distance == "60 %":
    warn = 'alert:' 'Trash is above 60%'

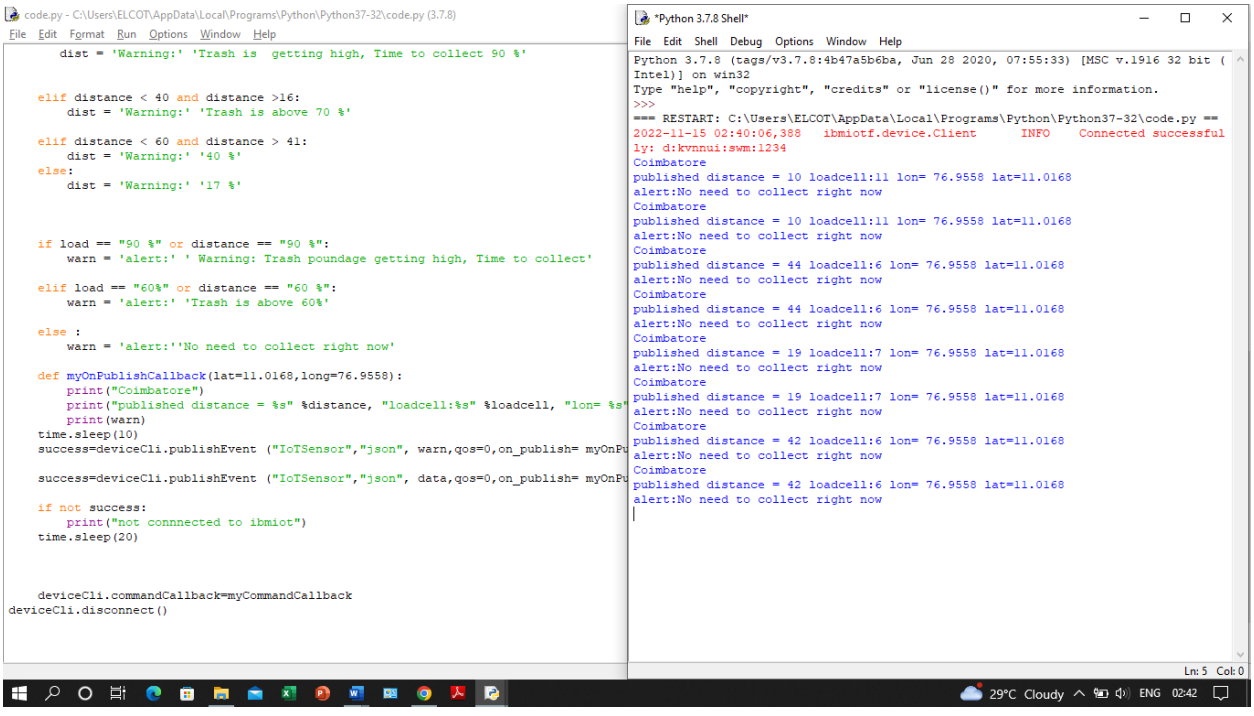
else :
    warn = 'alert:''No need to collect right now'

def myOnPublishCallback():
    print("Coimbatore")
    print("published distance = %s" %distance, "loadcell:%s" %loadcell)
    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 connnected to ibmiot")
time.sleep(20)



deviceCli.commandCallback=myCommandCallback
deviceCli.disconnect()
```

Output: