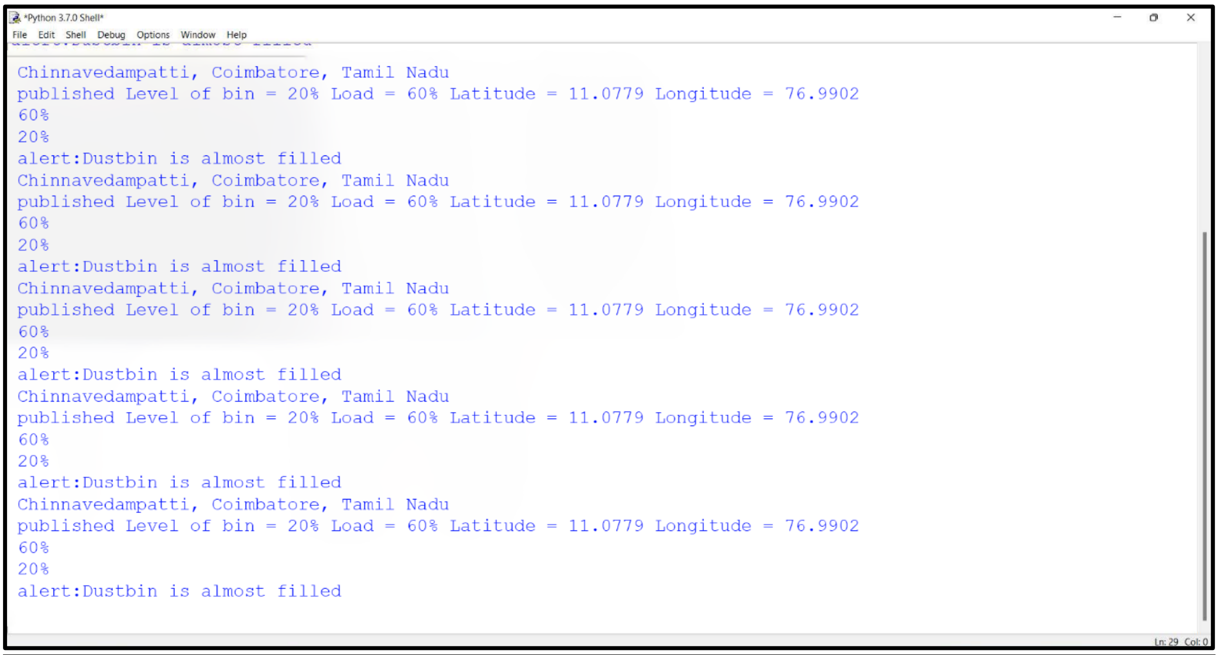
Delivery of Sprint-1

Team ID	PNT2022TMID15172
Project Name	Project : Smart Waste Management System For Metropolitan Cities

Work Done in Sprint-1:

We developed a python code for sending the location (latitude and longitude) and the dustbin random sensor data and done testing.

Output Data:



```
Chinnavedampatti, Coimbatore, Tamil Nadu
published Level of bin = 20% Load = 60% Latitude = 11.0779 Longitude = 76.9902
60%
20%
alert:Dustbin is almost filled
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Code:

```
import time
import random
import sys
```

```
import requests
import json
import ibmiotf.application
import ibmiotf.device
# watson device details
organization = "ffw1lq"
devicType =  "Raspberry-pi"
deviceId = "12345"
authMethod= "token"
authToken= "12345678"
#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,"authmethod":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:
    lat=11.0779
    lon=76.9902
    Distance= random.randint(1,75)
    Loadcell= random.randint(0,20)
    data=
{'dist':Distance,'load':Loadcell,'latitude':lat,'longitude':l
on}
    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(distance="90%" or load="90%"):
      warn={'Alert':'Dustbin is almost filled'}
   def
myOnPublishCallback(latitude=10.9368,longitude=78.1
366):
      print("Chinnavedampatti, Coimbatore, Tamil
Nadu")
      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()
```