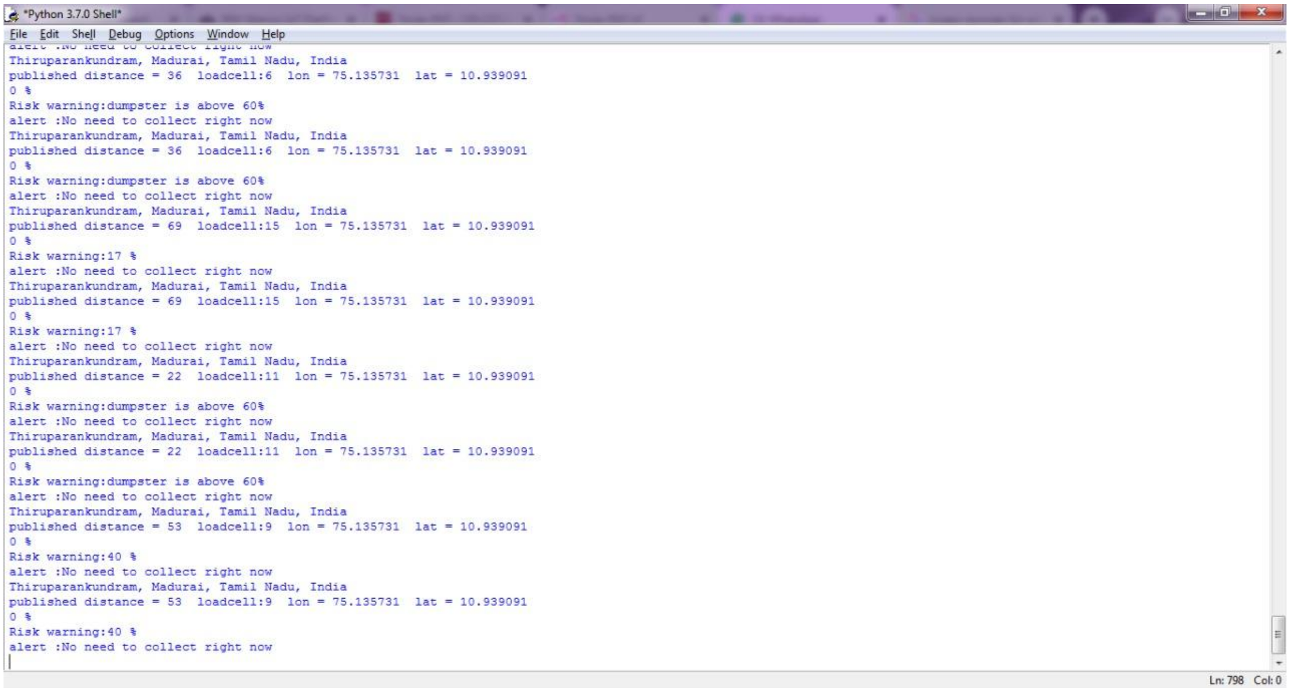
SPRINT I

Team ID	PNT2022TMID21348
Project Name	Smart Waste Management System for metropolitan cities

WORK DONE IN SPRINT 1:

- Python code is developed and then tested whether the code is generating random sensor data or not

SCREENSHOT:



```
alert :No need to collect right now
Thiruparankundram, Madurai, Tamil Nadu, India
published distance = 36  loadcell:6  lon = 75.135731  lat = 10.939091
0 %
Risk warning:dumpster is above 60%
alert :No need to collect right now
Thiruparankundram, Madurai, Tamil Nadu, India
published distance = 36  loadcell:6  lon = 75.135731  lat = 10.939091
0 %
Risk warning:dumpster is above 60%
alert :No need to collect right now
Thiruparankundram, Madurai, Tamil Nadu, India
published distance = 69  loadcell:15  lon = 75.135731  lat = 10.939091
0 %
Risk warning:17 %
alert :No need to collect right now
Thiruparankundram, Madurai, Tamil Nadu, India
published distance = 69  loadcell:15  lon = 75.135731  lat = 10.939091
0 %
Risk warning:17 %
alert :No need to collect right now
Thiruparankundram, Madurai, Tamil Nadu, India
published distance = 22  loadcell:11  lon = 75.135731  lat = 10.939091
0 %
Risk warning:dumpster is above 60%
alert :No need to collect right now
Thiruparankundram, Madurai, Tamil Nadu, India
published distance = 22  loadcell:11  lon = 75.135731  lat = 10.939091
0 %
Risk warning:dumpster is above 60%
alert :No need to collect right now
Thiruparankundram, Madurai, Tamil Nadu, India
published distance = 53  loadcell:9  lon = 75.135731  lat = 10.939091
0 %
Risk warning:40 %
alert :No need to collect right now
Thiruparankundram, Madurai, Tamil Nadu, India
published distance = 53  loadcell:9  lon = 75.135731  lat = 10.939091
0 %
Risk warning:40 %
alert :No need to collect right now
```

CODE:

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


# watson device details
organization = "a7g2jo"
devicType = "Garbage-Bin"
```

```
deviceId = "Garbage_Bin-IV"
authMethod = "token"
authToken = "Cs_e4IG2RBps4cAMxe"


#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 :' '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=75.135731):
        print("Thiruparankundram, Madurai, Tamil Nadu, India")
        print("published distance = %s " %distance,"loadcell:%s " %loadcell,"lon = %s " %long,"lat
= %s" %lat)
        print(load)
        print(dist)
        print(warn)

    time.sleep(5)


    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(5)




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