FINAL CODE

Date	**19 November 2022**
Team ID	**PNT2022TMID38378**
Project	**Signs with Smart Connectivity for Better Road Safety**

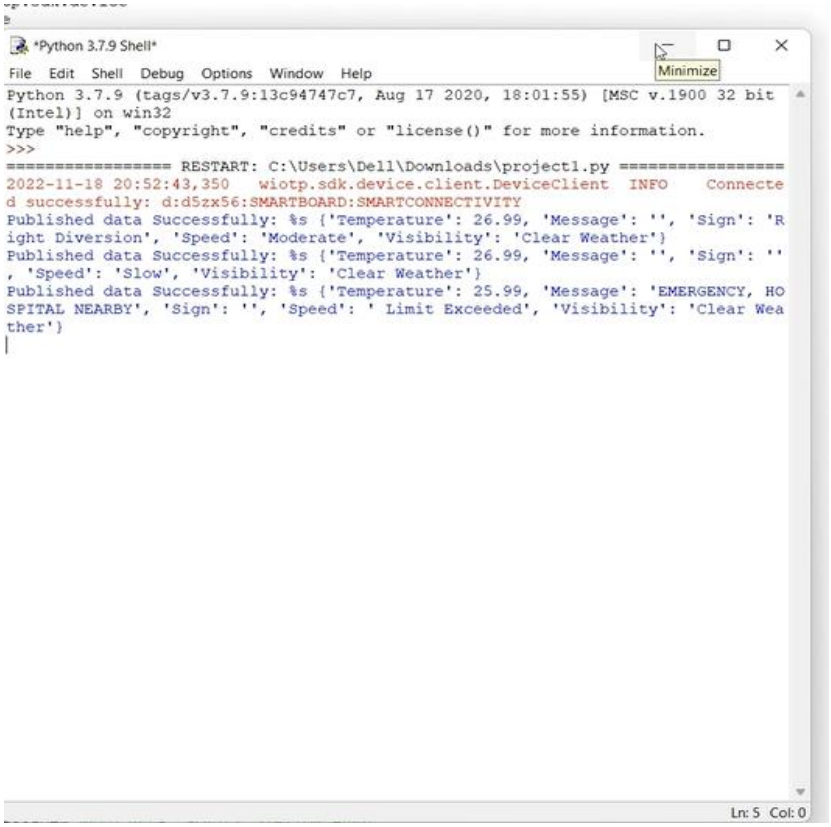
PROGRAM CODE:

```
import wiotp.sdk.device
import time
import random
import ibmiotf.application
import ibmiotf.device
import requests, json

myConfig = { #Configuration
    "identity": {
"orgId": “fvh76j”,
"typeId": "SMARTBOARD",
"deviceId":"SMARTCONNECTIVITY"},
#API Key
"auth": {
"token": "12345678"
}
}

#Receiving callbacks from IBM IOT platform
def myCommandCallback(cmd):
   print("Message received from IBM IoT Platform: %s" %
cmd.data['command'])
   m=cmd.data['command']

client =
wiotp.sdk.device.DeviceClient(config=myConfig,logHandlers=None)
client.commandCallback= myCommandCallback
client.connect()
```

```
#OpenWeatherMap Credentials
BASE_URL ="https://api.openweathermap.org/data/2.5/weather?"
CITY = "Chennai"
URL = BASE_URL + "q=" + CITY + "&units=metric"+"&appid=" +
" aacfd527963a5d91a8b5db80c6fe67b4"

while True:
  response = requests.get(URL)
  if response.status_code ==200:
    data = response.json()
    main = data['main']
    temperature =main['temp']
    humidity = main['humidity']
    pressure = main['pressure']
    report = data['visibility']

#messge part
    msg=random.randint(0,5)
    if msg==1:
      message="SLOW DOWN, SCHOOL IS NEAR"
    elif msg==2:
      message="NEED HELP, POLICE STATION AHED"
    elif msg==3:
      message="EMERGENCY, HOSPITAL NEARBY"
    elif msg==4:
      message="DINE IN, RESTAURENT AVAILABLE"
    else:
      message=""
#Speed Limit part
    speed=random.randint(0,150)
    if speed>=100:
      speedMsg=" Limit Exceeded"
    elif speed>=60 and speed<100:
      speedMsg="Moderate"
    else:
      speedMsg="Slow"
```

```
#Diversion part
      sign=random.randint(0,5)
      if sign==1:
        signMsg="Right Diversion"
      elif sign==3:
        signMsg="Left Diversion"
      elif sign==5:
        signmsg="U Turn"
      else:
        signMsg=""

#Visibility
      if temperature < 24:
        visibility="Fog Ahead, Drive Slow"
      elif temperature < 20:
        visibility="Bad Weather"
      else:
        visibility="Clear Weather"

   else:
     print("Error in the HTTP request")
   myData={'Temperature':temperature, 'Message':message,
'Sign':signMsg, 'Speed':speedMsg, 'Visibility':visibility}
   client.publishEvent(eventId="status", msgFormat="json",
data=myData, qos=0, onPublish=None)
#PUBLISHING TO IOT WATSON
   print("Published data Successfully: %s", myData)
   client.commandCallback= myCommandCallback
   time.sleep(5)



client.disconnect()
```

OUTPUT:


Python 3.7.9 Shell
File Edit Shell Debug Options Window Help
Minimize
Python 3.7.9 (tags/v3.7.9:13c94747c7, Aug 17 2020, 18:01:55) [MSC v.1900 32 bit (Intel)] on win32
Type "help", "copyright", "credits" or "license()" for more information.
>>>
========== RESTART: C:\Users\Dell\Downloads\project1.py ==========
2022-11-18 20:52:43,350 wiotp.sdk.device.client.DeviceClient INFO Connected successfully: d:d5zx56:SMARTBOARD:SMARTCONNECTIVITY
Published data Successfully: %s {'Temperature': 26.99, 'Message': '', 'Sign': 'Right Diversion', 'Speed': 'Moderate', 'Visibility': 'Clear Weather'}
Published data Successfully: %s {'Temperature': 26.99, 'Message': '', 'Sign': '', 'Speed': 'Slow', 'Visibility': 'Clear Weather'}
Published data Successfully: %s {'Temperature': 25.99, 'Message': 'EMERGENCY, HOSPITAL NEARBY', 'Sign': '', 'Speed': ' Limit Exceeded', 'Visibility': 'Clear Weather'}
Ln: 5 Col: 0