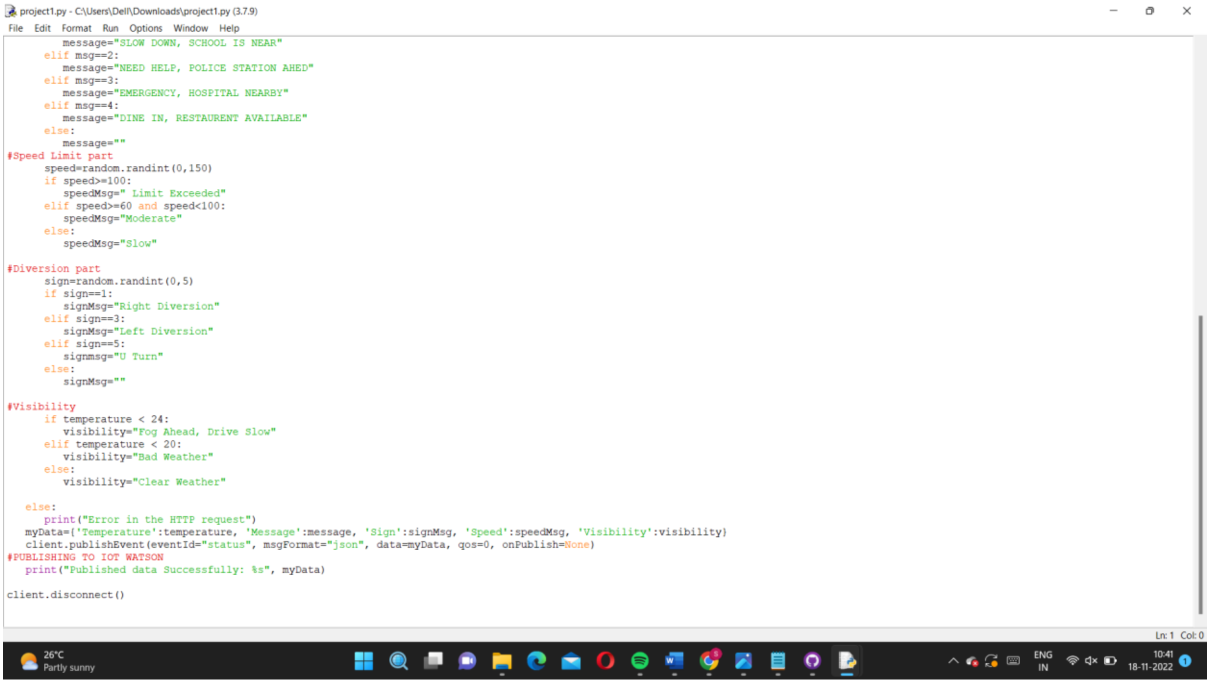
SPRINT 3

Date	17 November 2022
Team ID	PNT2022TMID16188
Project Name	Project – Signs with Smart Connectivity for Better Road Safety

SPRINT	FUNCTIONAL REQUIREMENT (EPIC)	USER STORY/TASK	STORY POINTS	PRIORITY	TEAM MEMBERS
Sprint-3	Resources Initialization	Create and initialize accounts in various public APIs like OpenWeather API.	1	LOW	SOWMYA B, SHAMYUKDHA PV, VIJAYALAKSHMI C V, VAISHNAVI N

STEP 1:
PYTHON CODE STIMULATION


project1.py - C:\Users\Dell\Downloads\project1.py (3.7.9)
File Edit Format Run Options Window Help
Ln: 1 Col: 0
26°C
Partly sunny
ENG
IN
10:41
18-11-2022

```
         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.disconnect()
```

PYTHON CODE:

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

myConfig = { #Configuration
   "identity": {
"orgId": "d5zx56",
"typeId": "Connectivity123", "deviceId":"ESP32"},
#API Key
"auth": {
"token": "9514598766"
}
}

#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=" +
"9cca583812b638930cefd580106f6c58"

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:
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    if temperature < 24:
      visibility="Fog Ahead, Drive Slow"
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      visibility="Bad Weather"
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  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.disconnect()
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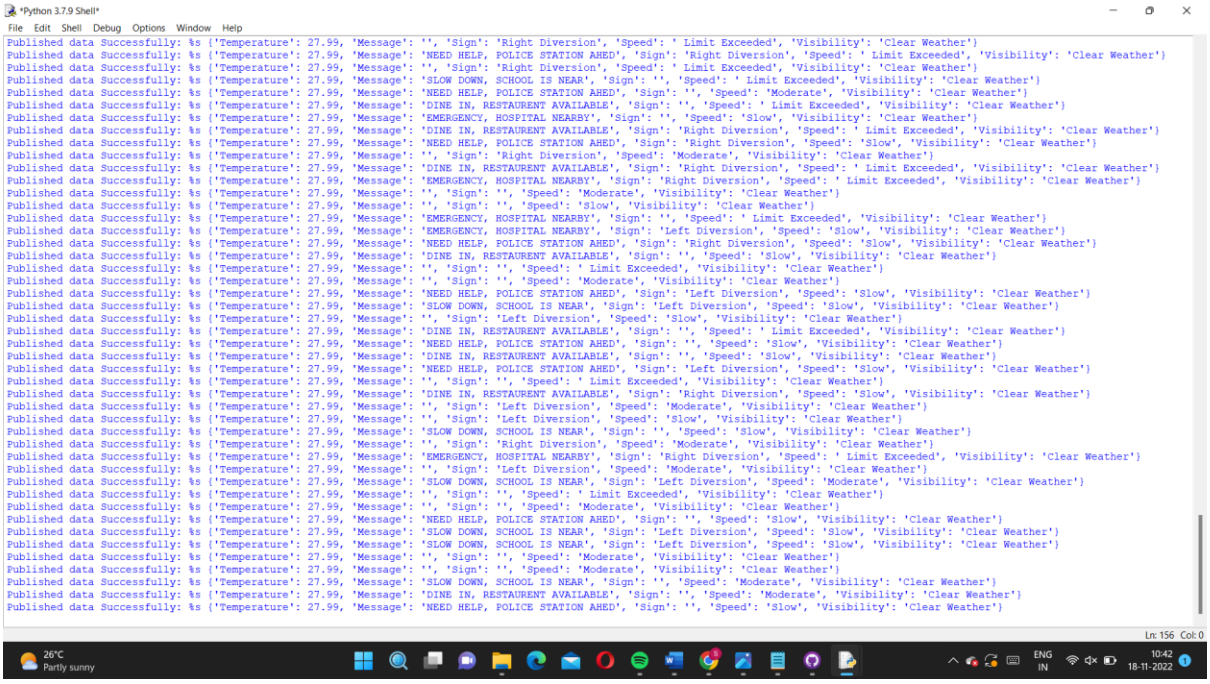
OUTPUT OF PYTHON CODE:



```
Published data Successfully: %s {'Temperature': 27.99, 'Message': '', 'Sign': 'Right Diversion', 'Speed': ' Limit Exceeded', 'Visibility': 'Clear Weather'}
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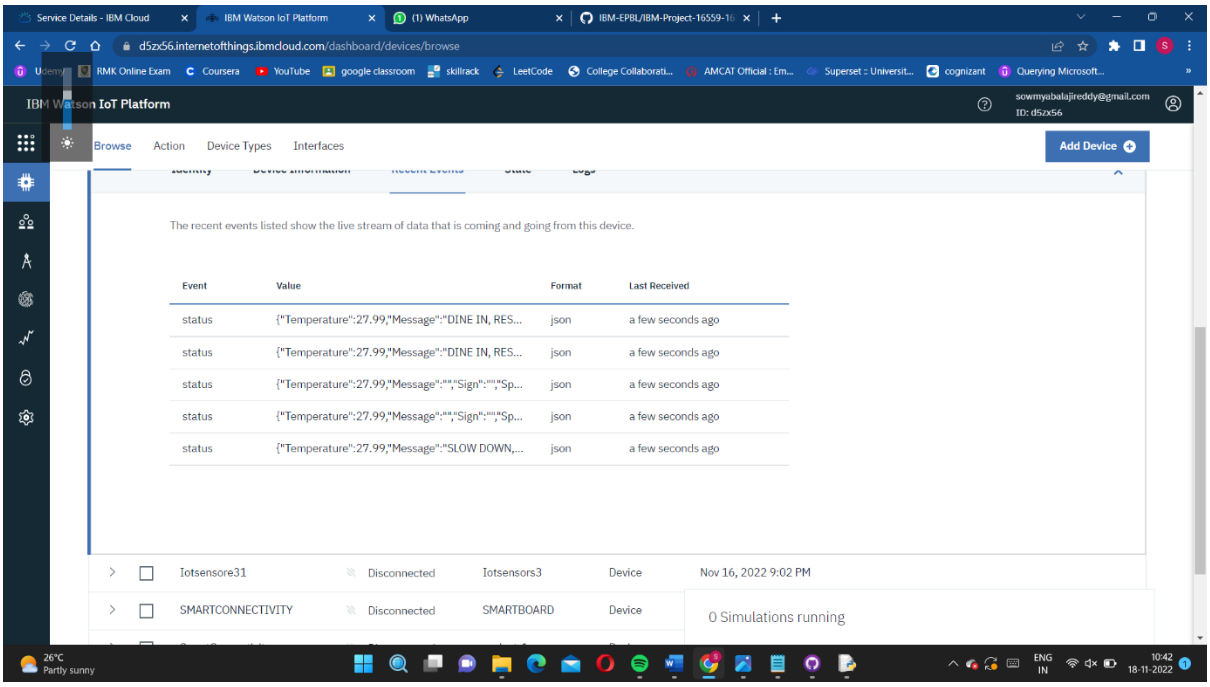
```

STEP 2:

IOT DEVICE- IOT PLATFORM

By running the code in python IDLE ,the data is published in IBM cloud.



The recent events listed show the live stream of data that is coming and going from this device.

Event	Value	Format	Last Received
status	{"Temperature":27.99,"Message":"DINE IN, RES...	json	a few seconds ago
status	{"Temperature":27.99,"Message":"DINE IN, RES...	json	a few seconds ago
status	{"Temperature":27.99,"Message":"","Sign":"","Sp...	json	a few seconds ago
status	{"Temperature":27.99,"Message":"","Sign":"","Sp...	json	a few seconds ago
status	{"Temperature":27.99,"Message":"SLOW DOWN,...	json	a few seconds ago

>	□	Iotsensore31	Disconnected	Iotsensors3	Device	Nov 16, 2022 9:02 PM
>	□	SMARTCONNECTIVITY	Disconnected	SMARTBOARD	Device	

0 Simulations running

THANK YOU