Final Deliverables
Final Code and Solutions

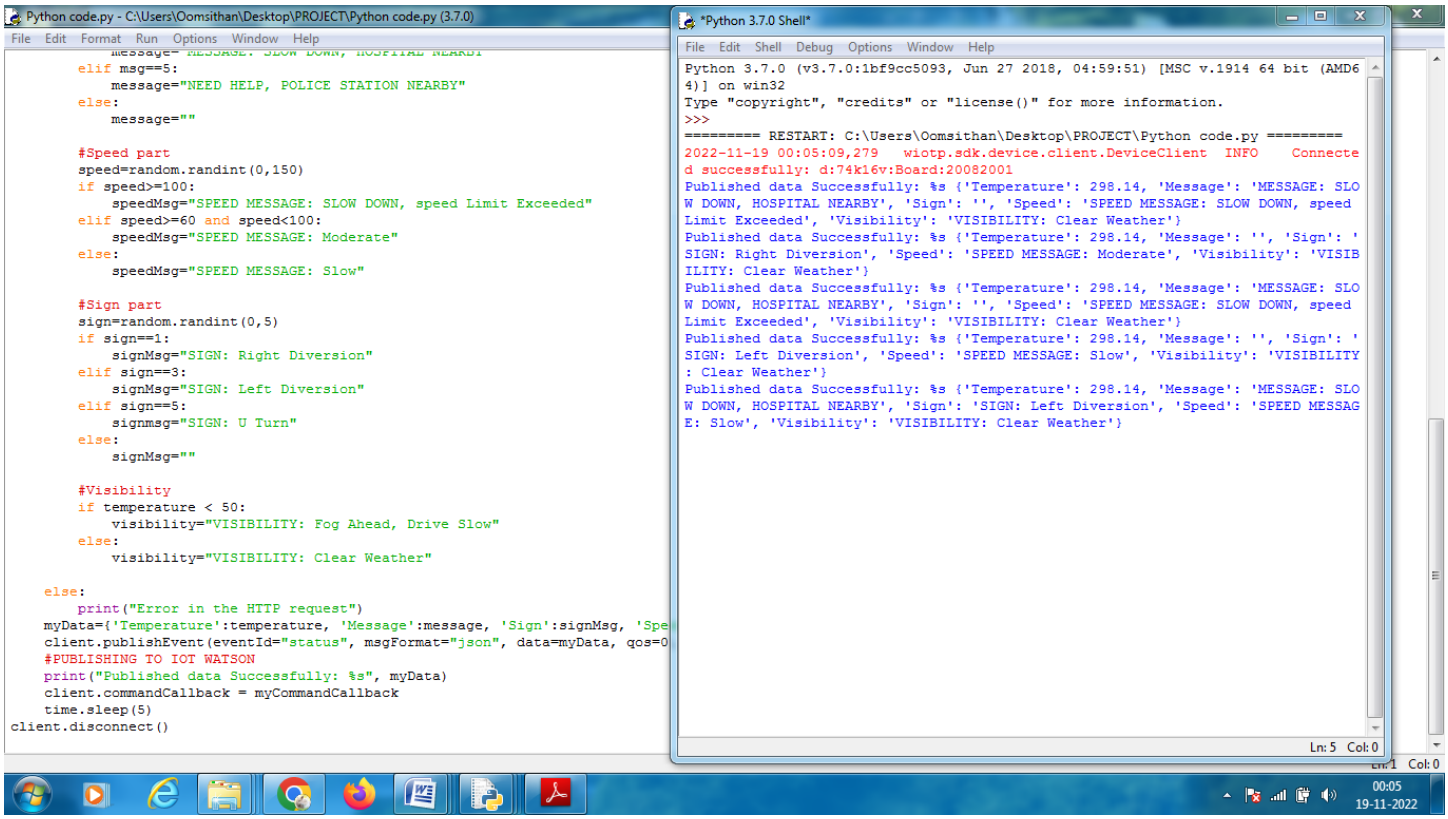
Date	19 November 2022
Team ID	PNT2022TMID41539
Project Name	Project-Signs with Smart Connectivity for Better Road Safety
Maximum marks	10 Marks

Python code

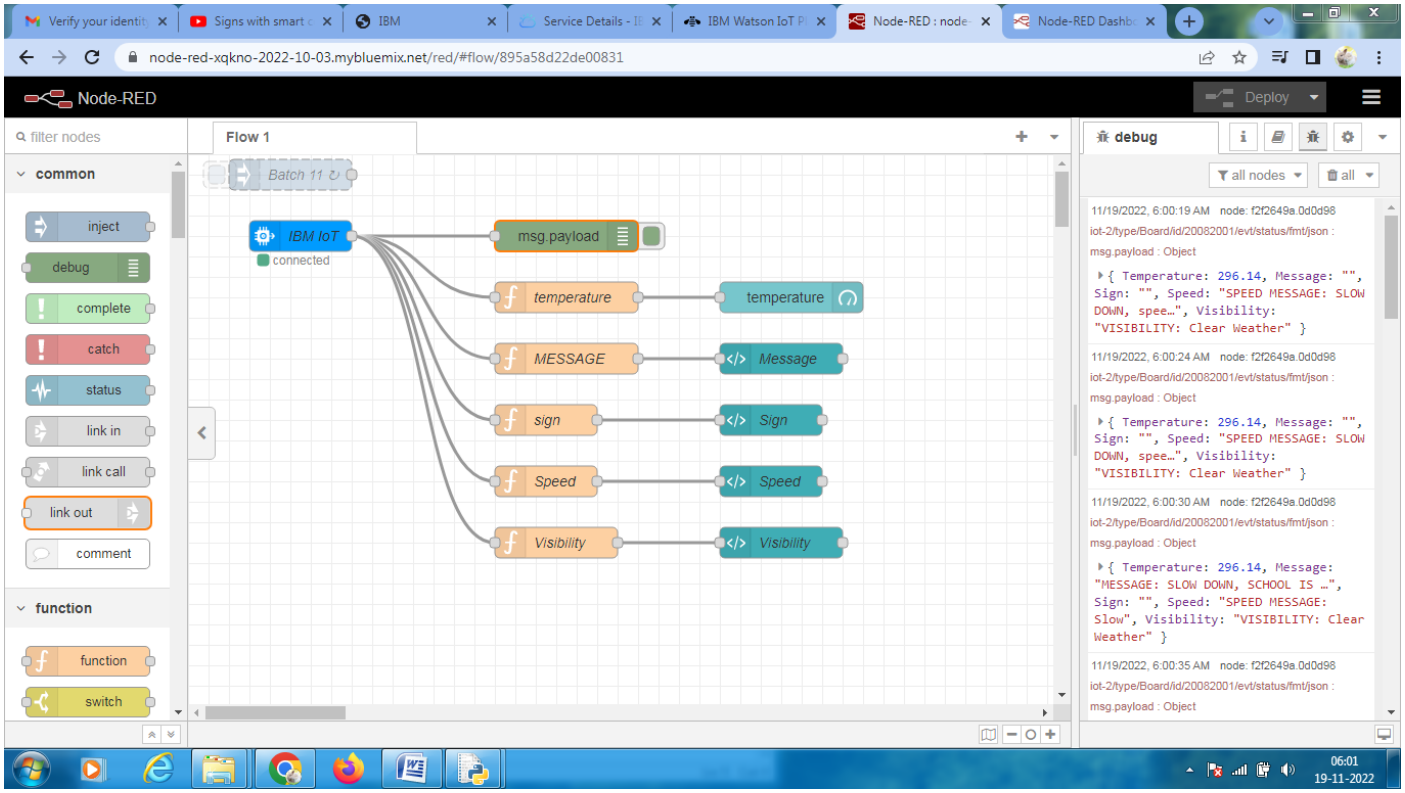
```
import wiotp.sdk.device
import time
import random
import ibmiotf.application
import ibmiotf.device
import requests, json

myConfig = {
   #Configuration
   "identity": {
      "orgId": "3dpjnk",
      "typeId": "Sign_Board",
      "deviceId":"Board_1"
      },
   #API Key
   "auth": {
      "token": "1234567890"
   }
}

#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.connect()

#OpenWeatherMap Credentials
BASE_URL ="https://api.openweathermap.org/data/2.5/weather?"
CITY = "Nagercoil"
URL = BASE_URL + "q=" + "Chennai" + "&appid=" + "01df65417ab3968e3fc2a38c4aee27bb"

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==3:
            message="SLOW DOWN, HOSPITAL NEARBY"
        elif msg==5:
            message="NEED HELP, POLICE STATION NEARBY"
        else:
            message=""

        #Speed part
        speed=random.randint(0,150)
        if speed>=100:
            speedMsg=" SLOW DOWN, speed Limit Exceeded"
        elif speed>=60 and speed<100:
            speedMsg="Moderate"
        else:
            speedMsg="Slow"

        #Sign 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 < 50:
            visibility="Fog Ahead, Drive Slow"
        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()
```

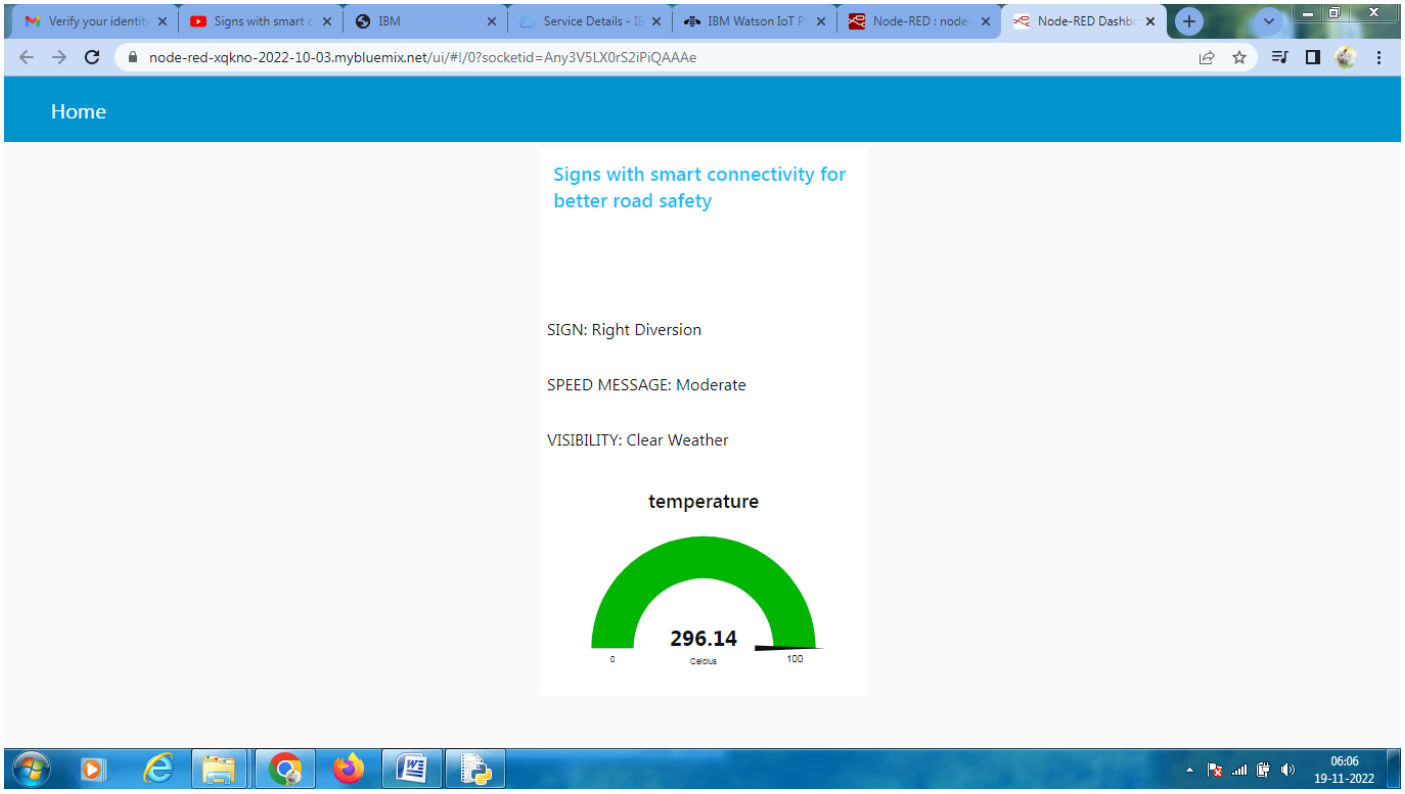
Python Output:



Node-Red Output:



Node User Interface Output:



MIT AI2 Mobile Companion Application Output: