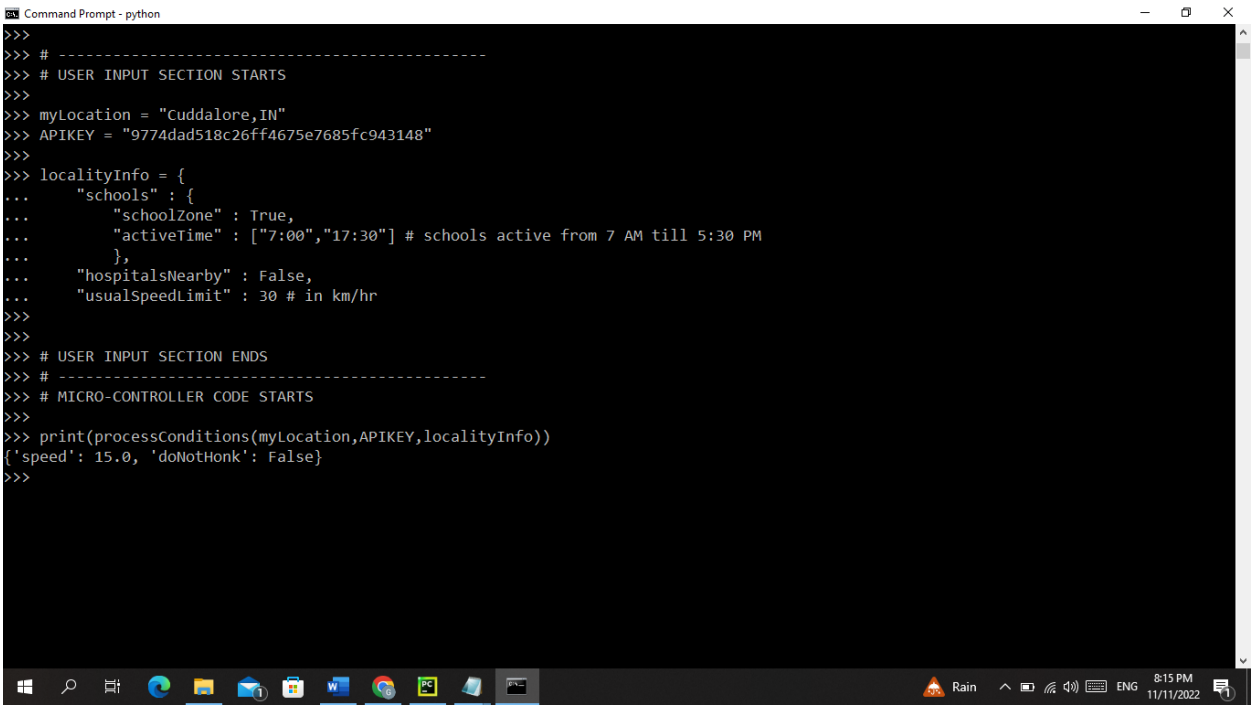
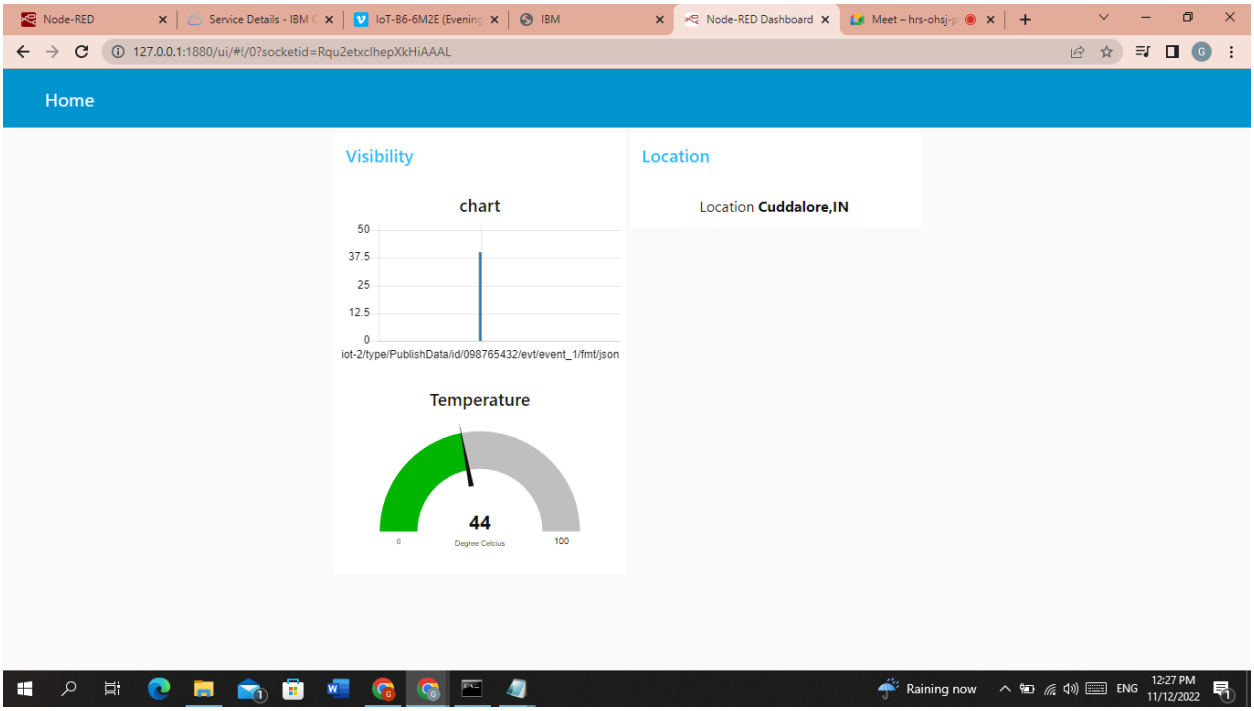
PYTHON CODE

```
import requests as reqs
from datetime import datetime as dt


def get(myLocation,APIKEY):
    apiURL = f"https://api.openweathermap.org/data/2.5/weather?q={myLocation}&appid={APIKEY}"
    responseJSON = (reqs.get(apiURL)).json()
    returnObject = {
        "temperature" : responseJSON['main']['temp'] - 273.15,
        "weather" : [responseJSON['weather'][_]['main'].lower() for _ in range(len(responseJSON['weather']))],
        "visibility" : responseJSON['visibility']/100, # visibility in percentage where 10km is 100% and 0km is 0%
    }
    if("rain" in responseJSON):
        returnObject["rain"] = [responseJSON["rain"][key] for key in responseJSON["rain"]]
    return(returnObject)



# ----------------------------------------------


def processConditions(myLocation,APIKEY,localityInfo):
    weatherData = get(myLocation,APIKEY)


    finalSpeed = localityInfo["usualSpeedLimit"] if "rain" not in weatherData else localityInfo["usualSpeedLimit"]/2
    finalSpeed = finalSpeed if weatherData["visibility"]>35 else finalSpeed/2
```

```
    if(localityInfo["hospitalsNearby"]):
        # hospital zone
        doNotHonk = True


 else:
        if(localityInfo["schools"]["schoolZone"]==False):
            # neither school nor hospital zone
            doNotHonk = False
        else:
            # school zone
            now = [dt.now().hour,dt.now().minute]
            activeTime = [list(map(int,_.split(":"))) for _ in localityInfo["schools"]["activeTime"]]
            doNotHonk = activeTime[0][0]<=now[0]<=activeTime[1][0] and
activeTime[0][1]<=now[1]<=activeTime[1][1]


    return({
        "speed" : finalSpeed,
        "doNotHonk" : doNotHonk
    })
# ---------------------------------------------
# USER INPUT SECTION STARTS
myLocation = "Cuddalore,IN"
APIKEY = "9774dad518c26ff4675e7685fc943148"
localityInfo = {
    "schools" : {
        "schoolZone" : True,
        "activeTime" : ["7:00","17:30"] # schools active from 7 AM till 5:30 PM
        },
    "hospitalsNearby" : False,
```

```
    "usualSpeedLimit" : 30 # in km/hr
}
# USER INPUT SECTION ENDS
# --------------------------------------------

# MICRO-CONTROLLER CODE STARTS
print(processConditions(myLocation,APIKEY,localityInfo))
```




Node-RED
Service Details - IBM
IoT-B6-6M2E (Evening
IBM
Node-RED Dashboard
Meet – hrs-ohsj-p
127.0.0.1:1880/ui/#!/0?socketid=Rqu2etxclhepXkHiAAAL
Home
Visibility
chart
50
37.5
25
12.5
0
iot-2/type/PublishData/id/098765432/evt/event_1/fmt/json
Temperature
44
Degree Celcius
0
100
Location
Location Cuddalore,IN
Raining now
ENG
12:27 PM
11/12/2022