Brian.py - C:\Users\ELCOT\Desktop\Project Development Phase\Sprint 1\Brian.py (3.8.4)

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```
from datetime import datetime as dt
from publishData import logData2Cloud as log2cloud
import weather

# IMPORT SECTION ENDS
# ------------------------------------------------
# UTILITY LOGIC SECTION STARTS
def processConditions(myLocation,APIKEY,localityInfo):
    weatherData = weather.get(myLocation,APIKEY)

    log2cloud(myLocation,weatherData["temperature"],weatherData["visibility"])

    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
    })

# UTILITY LOGIC SECTION ENDS
```

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Main.py - C:\Users\ELCOT\Desktop\Project Development Phase\Sprint 1\Main.py (3.8.4)

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```
# Python code

# IMPORT SECTION STARTS

import brain

# IMPORT SECTION ENDS
# ------------------------------------------------
# USER INPUT SECTION STARTS

myLocation = "Thanjavur,TN"
APIKEY = "e7faf1fb73b0914c60d2e8ceeb810262"

localityInfo = {
    "schools" : {
        "schoolZone" : True,
        "activeTime" : ["7:00","17:30"] # schools active from 7 AM till 5:30 PM
        },
    "hospitalsNearby" : False,
    "usualSpeedLimit" : 40 # in km/hr
}

# USER INPUT SECTION ENDS
# ------------------------------------------------
# MICRO-CONTROLLER CODE STARTS

print(brain.processConditions(myLocation,APIKEY,localityInfo))

'''
MICRO CONTROLLER CODE WILL BE ADDED IN SPRINT 2 AS PER OUR PLANNED SPRINT SCHEDULE
'''

# MICRO-CONTROLLER CODE ENDS
```

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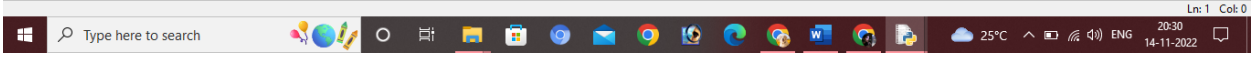

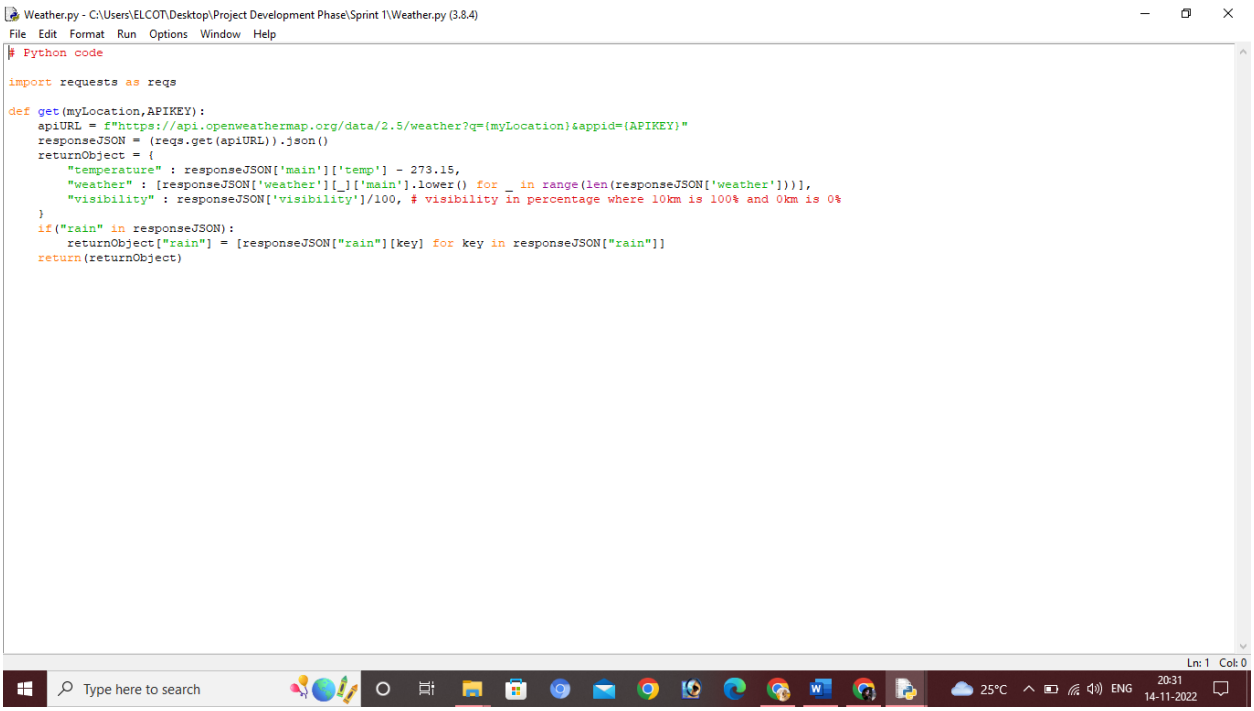
Weather.py - C:\Users\ELCOT\Desktop\Project Development Phase\Sprint 1\Weather.py (3.8.4)
File Edit Format Run Options Window Help
# Python code
import requests as reqs
def get(myLocation,APIKEY):
apiURL = f"https://api.openweathermap.org/data/2.5/weather?q={myLocation}&appid={APIKEY}"
responseJSON = (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)
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