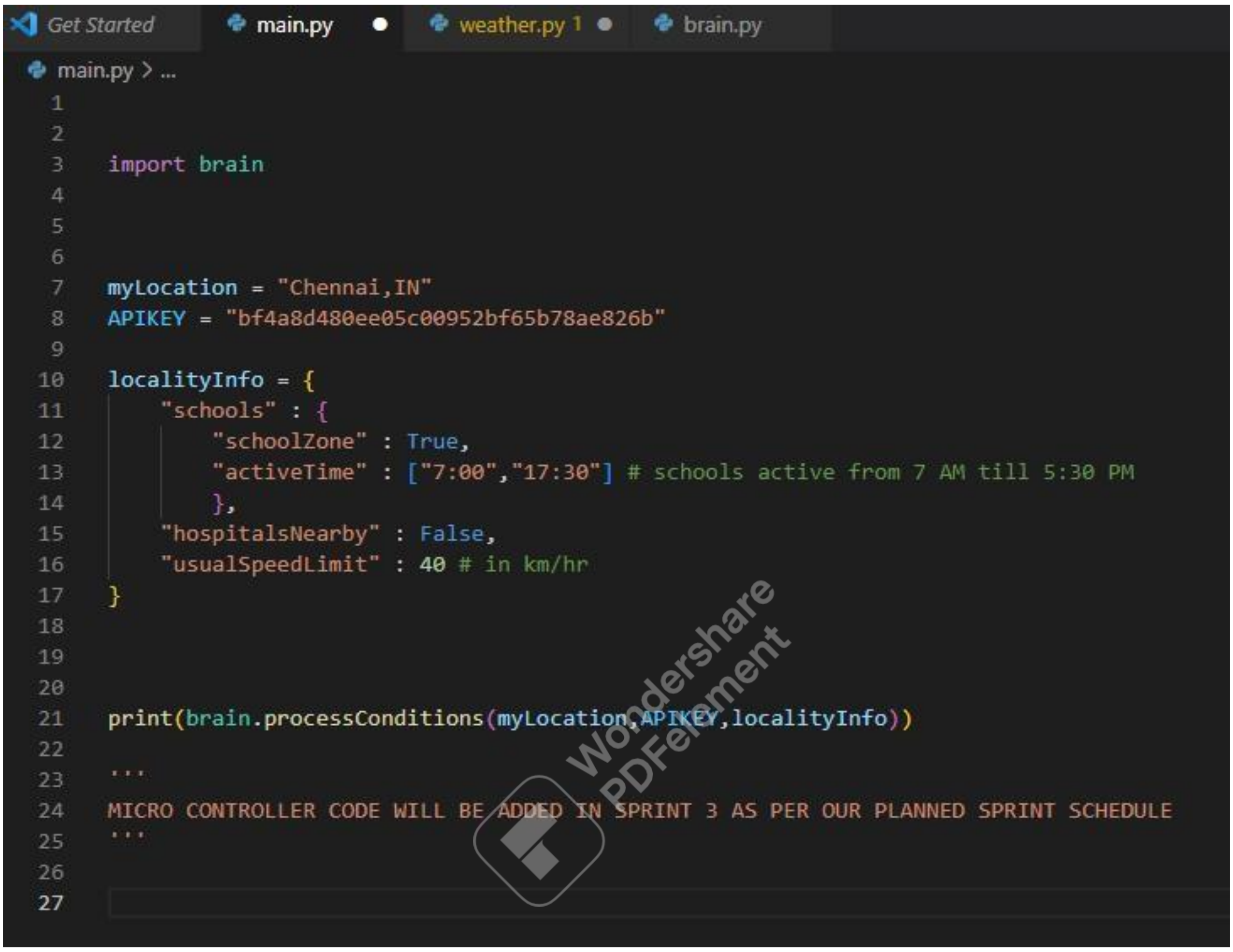
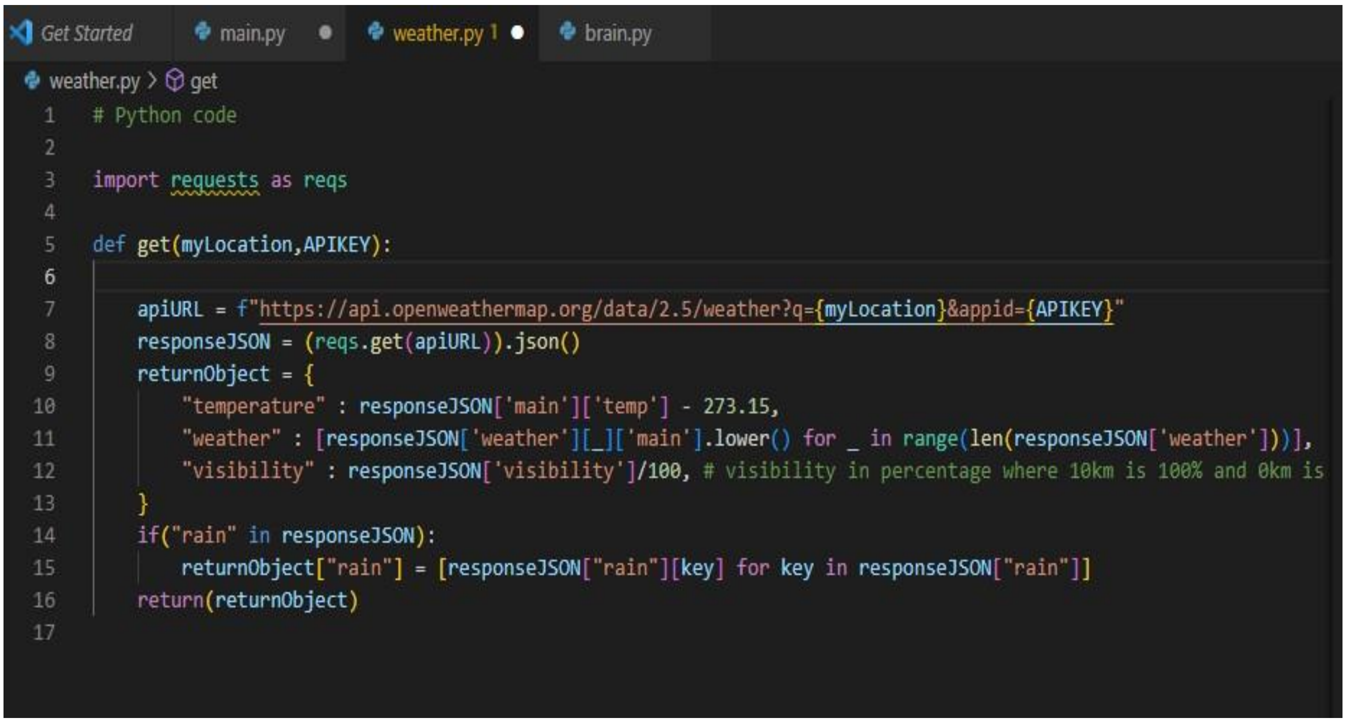
TEAM ID	PNT2022TMID22779
PROJECT NAME	SIGNS WITH SMART CONNECTIVITY FOR ROAD SAFETY

MAIN.PY:



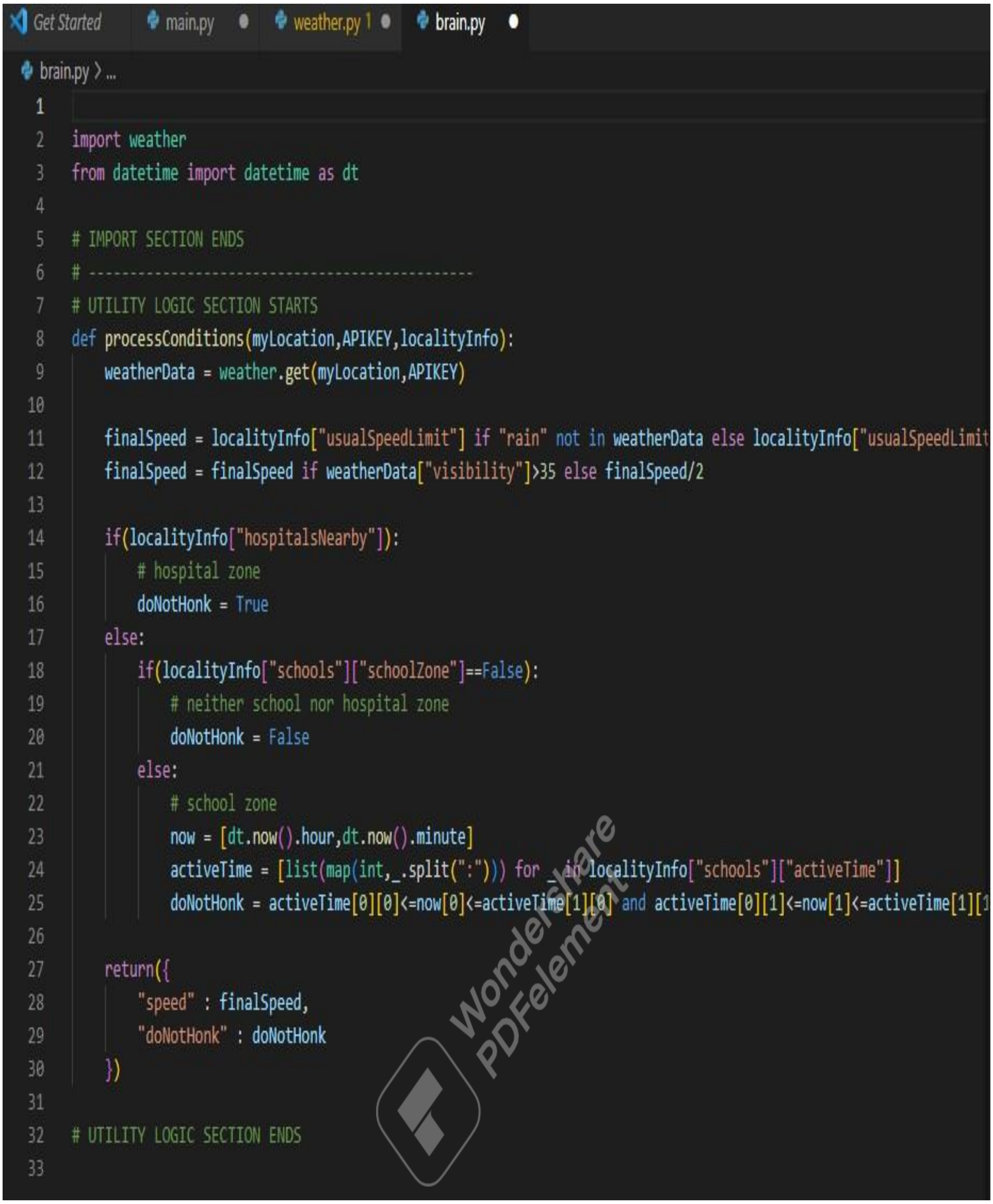
```python


import brain



myLocation = "Chennai,IN"
APIKEY = "bf4a8d480ee05c00952bf65b78ae826b"

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
}



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

'''
MICRO CONTROLLER CODE WILL BE ADDED IN SPRINT 3 AS PER OUR PLANNED SPRINT SCHEDULE
'''


```

WEATHER.PY:



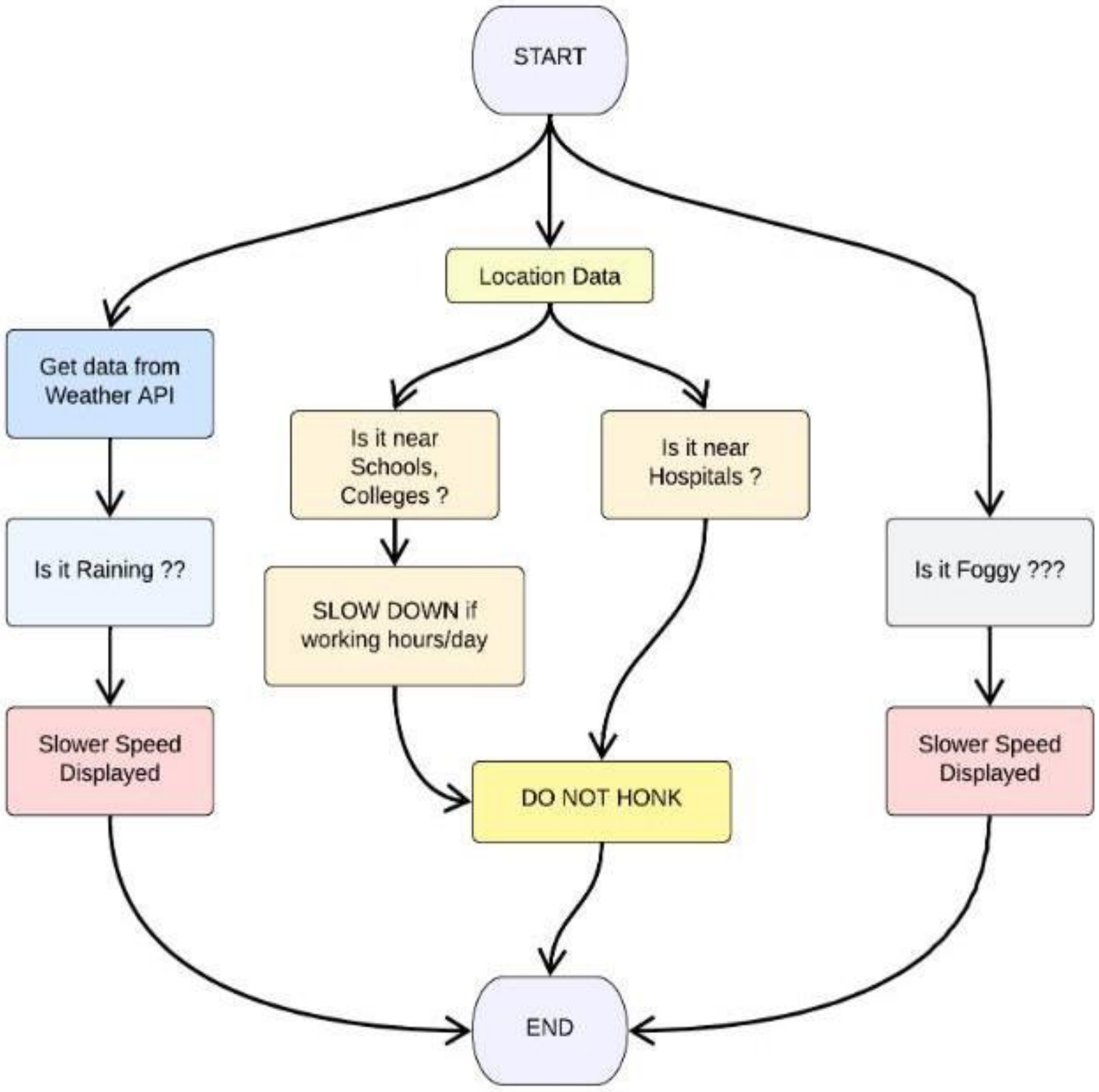
```python
# Python code

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
    }
    if("rain" in responseJSON):
        returnObject["rain"] = [responseJSON["rain"][key] for key in responseJSON["rain"]]
    return(returnObject)

```

BRAIN.PY:



```python

import weather
from datetime import datetime as dt

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

    finalSpeed = localityInfo["usualSpeedLimit"] if "rain" not in weatherData else localityInfo["usualSpeedLimit
    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

```

CODE FLOW:


START
Location Data
Get data from Weather API
Is it near Schools, Colleges ?
Is it near Hospitals ?
Is it Raining ??
SLOW DOWN if working hours/day
Is it Foggy ???
Slower Speed Displayed
DO NOT HONK
Slower Speed Displayed
END