Code design exercise - data systems engineer

Tips:

- Choose the programming language and technology your are most familiar with.
- Keep it simple: you should not need any additional infrastructure beyond your computer and your chosen language.
- Document how to reproduce the results for the exercise (e.g how to run your program or binary)

Introduction:

You have been given hourly solar weather data originating from a number of stations in CSV format. The data encompasses many years. This data exists across two files:

- Weather data - tmy3.csv
- Station metadata - TMY3_StationsMeta.csv

You may find the files to download for the exercise here: TMY3 Solar (create a kaggle account to download them).

The exercise:

1. Read the input data
2. Calculate the average `GHI (W/m^2)` and `DNI (W/m^2)` for each weather station at a weekly interval
3. Write the output to a `.json` file

The output file should have the following format where `ghi` and `dhi` are the average values for the respective measurement columns over the course of that week. Timestamp should the be time of the measurement week in MS since epoch.

```
[
  {
    "id": "the weather station ID or USAF",
    "site_name": "the weather station site name",
    "coordinates": [150, -26],
    "data": [
      {
        "timestamp": 1724703772146,
        "ghi": 0,
        "dni": 0
      }
    ]
  }
]
```

Submission:

Submit your code, along with a sample of the output file to a public git repository and share it.