

Coursework

Stage 4

Task 1

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1 Type of data

The data that I have so far collected consists of weather forecasts, which I obtained with the Dark Sky API. Detailed information about the data structure is below.

2 Formatting

Data that have used originally comes in the **JSON** format, but I will save it in simple .txt files. Since I am only given 1000 free requests a day, I have to limit data, which is why I am only taking one day of a month and every second hour of the day. The .txt files are named by:

1. **month** (January to December) - first number in the name of the .txt file
2. **hour** of the 15th day of the current month (2 AM, 4 AM, ..., 8 PM, 10 PM) - second number in the name of the .txt file. This is the hour of departure
3. the number of the **route segment** the file represents (depending on how many turns the route has) - the last number in the name of the .txt file.

In every .txt file there is information about the current weather (e. g. 'Cloudy'). Then the programme reads those files, makes a dictionary out of them, sorts the values in the dictionaries, and determines which time of year/hour of day is the best for driving on that particular route. For example, if at a certain hour there will be a lot of 'Foggy' forecasts, the programme will treat it as bad road conditions, whether 'Cloudy' or 'Sunny' is much better.

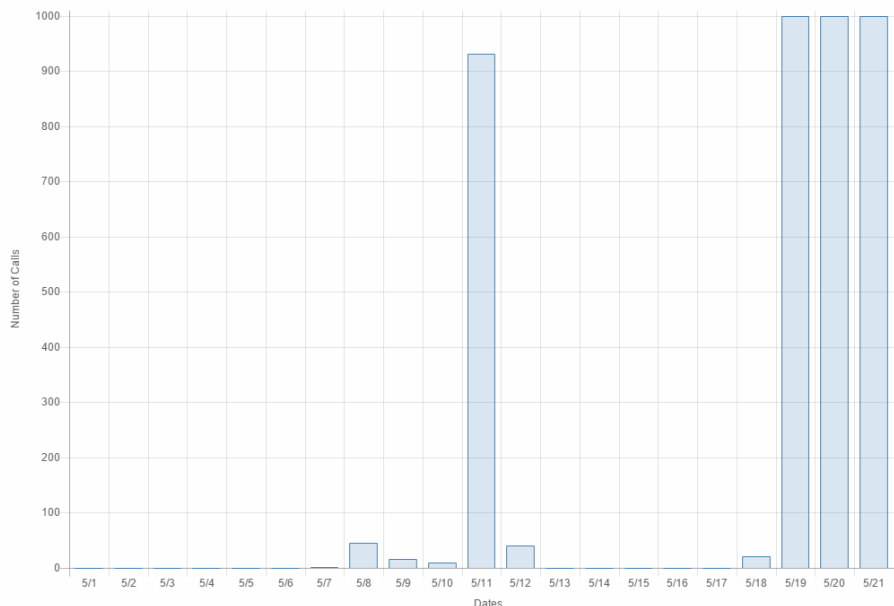


Figure 1: P. S. This is the graph of my daily API usage, this is the proof that I am limited to 1000 calls/day