Data Generator for the Task

We have provided a data simulator. The simulator writes 3 records per second into a table in PostgresSQL called *devices*. The structure of the table is the following:

Property Name Data Type	Data Type	Comment
device_id	UUID	The unique ID of the device sending the data.
temperature	Integer	The temperature measured by the device.
location	JSON	Latitude and Longitude of the position of the device.
time	Timestamp	The time of the signal as a Unix timestamp.

Task: Data ETL

The data generated above needs to be pulled, transformed and saved into a new database environment. Create an ETL pipeline that does the following:

- Pull the data from PostgresSQL
- Calculate the following data aggregations:
    a. The maximum temperatures measured for every device per hours.
    b. The amount of data points aggregated for every device per hours.
    c. Total distance of device movement for every device per hours.
- Store this aggregated data into the provided MySQL database

To determine the distance between two locations, you can utilize the following formula or a relevant python/postgresql package:

distance = acos(sin(lat1) * sin(lat2) + cos(lat1) * cos(lat2) * cos(lon2 - lon1)) * 6371 (where 6371 represents the radius of the Earth in kilometers).

This ETL should live inside the provided docker container and run by the *docker-compose* command.

Submission Guidelines:

Submit your project (without binaries) along with a screenshot showing successful running in a public git repository. We assume that this task should take 1-2 hours, not more. We will also pay attention to your coding style, so make sure your solution is written in a concise and clear manner. You have 5 days to complete the task and return the link to your git repository. We will check that no commit to the repository was made after the deadline.