Project - HPCS Course

Earth Surface Temperature Data (Since 1750)
Processing with C++

1 Project presentation

1.1 The data

The dataset that will be used in this project comes from Berkeley Earth data. These are data showing temperature records around the world since 1750. More information and a detailed description can be found here. A copy of the data can be downloaded using this link.

1.2 ToDo

After downloading and decompressing the dataset, the project will focus only on the file "GlobalLandTemperaturesByCity.csv". This file presents the temperature records of various cities around the world since 1750. The file consists of 8,599,212 rows. And the header is as follows : (1) **dt** - The date of the reading in the format Y-m-d, (2) **AverageTemperature** - The average temperature in celsius, (3) **AverageTemperatureUncertainty** - The 95% confidence interval around the average, (4) **City** - The name of the City, (5) **Country** - The name of the Corresponding Country, (6) **Latitude** and (7) **Longitude**.

Your task will be to use this file in a program that :

1. Allows user to get specific info such as the highest, lowest and the average temperature since 1750 for specific city. Minimize the time of such a request by using a parallel execution approach in your program.

2. Allows the user to plot evolution of the temperature between two dates and for a city specified by the user.

The compilation of the program must be done using "make".

2 Output

The source code, the executable program as well as a small report written for the occasion must be put in a GitHub repository.