Dear students,

In the last lecture, you divided into teams to carry out a project together. The purpose of the project is as follows - in the attachment to this letter you will find a table in .csv format with statistics on the incidence of coronavirus infection for each country over the past year. You need:

1. Select only those data that correspond to the country of residence of one of the team members. Divide your data - the last week in your data is the test sample, everything else before the test sample is the training sample. After that, it is necessary to build a model that, using the training sample, will predict the number of confirmed diseases for the week ahead. Confirmed cases are listed in the «Confirmed» column. Use a test set to compare forecast accuracy. Use Python and a structured approach as in Lecture №3 for this exercise.
2. After setting up and testing the model with data appropriate for your country, build and test the models for several other countries (of your choice). For which country has the best forecast accuracy been obtained and why?

3. The results of forecasts for your own and several other countries must be saved in the database. We recommend using MySQL as a DBMS. You can organize the data storage structure as you wish. The database tables should contain the following information: country, date, predicted value of confirmed diseases.

After completing the project, prepare a presentation in which:

1. Indicate who was responsible for what tasks in your team;
2. Describe the mathematical methods and algorithms that you used to preprocess and analyze data, to develop models;
3. Describe the structure of your database;
4. Show the results of the forecasts in a way that is convenient for you: relative units, graphs, accuracy estimates, etc.
5. Draw conclusions;
6. Answer the following questions:
   * How do you see the next stage of the project development? For example, if you had to use high-load systems (see the lecture on Hadoop), how would you organize it?
   * What visualization tools would you use to display your data from the database? Do you know of ready-made solutions for this task?