**D**

Solve the problem in an object-oriented way in C++ according to the following:

*You have to use the template class library at* [*https://people.inf.elte.hu/treszka/oktatas/OOP/library.zip*](https://people.inf.elte.hu/treszka/oktatas/OOP/library.zip)*. You cannot modify the library.* ***There can be no loops or recursive function calls*** *in your code. You cannot inherit custom classes from Procedure. You can assume that the input file is correct. You only have to check that the file exists. You can open the file only once, and cannot use a variable whose size depends on the size of the file (for example, you cannot read everything into a vector and then process it). If the problem does not make sense for an empty file handle that case separately. You cannot use global variables.*

The ACM programming competition is held each year since 1977 on three levels: national, regional, and global for the best of the best. The students participate in groups of three, and solve 5-8 problems. They can choose any programming language for each problem. They have to turn in their solutions to check whether they are correct, and receive an answer shortly.

To produce statistics about the competition, varius data is stored in a text file. One line of the file contains the year of the competition (an integer), the identifier of the competition (single word without spaces), then the data about the problems as (programming language, number of correct problems) pairs. The programming language is a word without spaces. The number of correct problems written in that programming language is an integer. The file is ordered according to the year of the competition. The data in a line are separated by spaces. You can assume that the file is correct. An example line of the file (the data of the 2020 Hungarian ACM national programming competition):

2020 HACM Pascal 42 Java 38 C++ 82 Haskell 76 Python 12

***For grade 3:*** Give the year and identifier of a competition where more than 10 correct solutions were obtained using Fortran.

***For grade 5:*** Give a year where for each competition in that year, at most 3 correct solutions were obtained in Fortran (0 solutions is also possible and satisfies the condition).

You can use the official codes of the course and your own codes, too, but you must not enlist other persons’ help. You don't have to do the solution for grade 3 if you have already solved for grade 5. It is recommended to start with the problem for grade 3. Only those programs are accepted that can be compiled with g++ and that give good results for the test data. You have to upload your solution to [http://assignment.elte.hu](http://assignment.elte.hu/) before 15:55. Upload a zipped complete CodeBlocks project without the obj and bin libraries. The filename should be your neptun code and the level you have solved (3 or 5). Please, do not upload your program if it does not meet the requirements.

You can ask questions from your lab teacher during the test trough Teams or email.