

Name:	NEPTUN:	Computer number:
Grade: 1 3 5	Help: <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	

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>. 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.

Data of planned concerts for the year 2021 are recorded in a text file. Each line of the input file stores the data of a concert tour by a band. Possible sample lines of the input file are the followings:

TakeThat pop NewYork 0 40000

AC/DC rock London 1 20000 Budapest 1 22222

Queen rock London 1 25000 Paris 0 18000 Rome 0 31000

Each line of the file contains the name of a band (a single word without spaces), the music genre of the band (a single word without spaces), then the data of all announced concerts. The data of one concert consists of the city where the concert will be held, the type of the concert (0: open-air, 1: indoor) and the number of sold tickets. The data in each line are separated by spaces. The file is sorted by the genre.

For grade 3: How many bands are there with at least one indoor concerts?

For grade 5: Determine the genre, to which the most total number of indoor concerts belong to.

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 into Canvas before 17:30. Upload a zipped complete CodeBlocks project without the obj and bin folders. 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 through Teams or email.