# 09. C++ OOP Pure Virtual Members and Multiple Inheritance

Write C++ code for solving the tasks on the following pages.

Code should compile under the C++03 or the C++11 standard.

Submit your solutions here: <https://judge.softuni.bg/Contests/1281/09-Cpp-OOP-Pure-Virtual-Members-and-Multiple-Inheritance> (select “Compete” when prompted)

Any code files that are part of the task are provided under the folder **Skeleton**.

Please follow the exact instructions on uploading the solutions for each task.

NOTE: the Judge system treats each .cpp file as a compilation unit, compiles each such file and links them together to create the final executable, which is checked against the tests.

# Task 1 – Filters

You are given code which reads a line from the console, then reads the definition of a filter, applies the filter (which removes some of the symbols from the input) and prints the output. The filter types are:

* A-Z – removes all capital letters
* a-z – removes all non-capital letters
* 0-9 – removes all digits

However the code only defines the main() function and a base Filter class. You task is to implement the specific filter each case.

You should submit a single .zip file for this task, containing ONLY the file(s) YOU created. The Judge system has a copy of the other files and will compile them, along with your file, in the same directory.

### Examples

|  |  |
| --- | --- |
| **Input** | **Output** |
| Where Eagles Dare  A-Z | here agles are |
| don't ever go into a ALL CAPS RAAAAGE  a-z | ALL CAPS RAAAAGE |
| one 2 three  0-9 | one three |