

# C++ Fundamentals: Judge Assignment 3 (JA3)

The following tasks should be submitted to the SoftUni Judge system, which will be open starting **Saturday, 23 December 2017, 10:00** (in the morning) and will close on **Friday, 12 January 2018, 23:59**. Submit your solutions here: <https://judge.softuni.bg/Contests/Compete/Index/893>.

After the system closes, you will be able to “Practice” on the tasks – however the “Practice” results are NOT considered in the homework evaluation.

**Tasks 1 and 2** of this assignment will require submitting **compressed archive (.zip) files**, containing **a single .cpp file**. Both tasks will have a **.h** file included and you can use that file directly in your code by **#include**-ing it (the Judge system will have a copy of the file) – or you can just copy the file’s contents into the **.cpp** file you submit.

For **tasks 3 and 4** of this assignment, the code for each task should be a single C++ file, the contents of which you **copy-paste** into the Judge system (like with previous judge assignments).

Please be mindful of the strict input and output requirements for each task, as well as any additional requirements on running time, used memory, etc., as the tasks are evaluated automatically and not following the requirements strictly may result in your program’s output being evaluated as incorrect, even if the program’s logic is mostly correct.

You can use C++03 and C++11 features in your code.

Unless explicitly stated, any integer input fits into **int** and any floating-point input can be stored in **double**.

NOTE: the tasks here are NOT ordered by difficulty level.

## Task 3 – Games (JA3-Task-3-Games)

You are given a list of teams and their members, competing in a league for the Counter-Attack: Globally Offensive game (*yep, still shamelessly avoiding copyright*). A player can be a member of multiple teams in the league, and each team can participate in multiple games throughout the league. Player scores are determined by the number of victories their team has throughout the league.

Write a program, which, given a list of teams and the players in those teams, and given another list with the winner for each game played, prints out the player scores, sorted by player name.

### Input

The first line of the standard input contains a single integer number **T** – the number of teams.

Each of the following **T** lines describes a team. Each line begins with the team name (lowercase English characters), followed by a positive integer **M** – the number of players in the team, and followed by **M** player names (lowercase English characters). These are separated by single spaces.

The next line contains a single integer **G** – the number of games played in the league.

Each of the following **G** lines describes the result of a game – i.e. the name of the team that won.

### Output

A single line containing integers, separated by single spaces – the scores of the players, ordered by the lexicographical order of the player names.

### Restrictions

**T** <= 100; **G** <= 100;

Team and player names will contain only lowercase English letters (**a-z**) and will be at most **10** characters long. There will be no more than **10** members per team.

No player will appear twice in the same team (but a player can be a member of multiple different teams)

Hint: use `std::cin.sync_with_stdio(false); std::cout.sync_with_stdio(false);` at the start of your `main()` function to speed-up console input and output (if you're using `cin` and `cout` for reading/writing)

The total running time of your program should be no more than **0.1s**

The total memory allowed for use by your program is **5MB**

### Example I/O

Example Input	Expected Output	Explanation
3 A 3 a b c B 2 d e C 4 a b c d 4 A A C A	4 4 4 1 0	a, b, and c have 4 victories with teams A (3) and C (1).  d has 1 victory with team C.  e has no victories.
4 skplaying 5 risen ref warmzera burger bolt nnjsinhats 3 getleft lake toastberg mixone 2 risen getleft mixtwo 2 lake toastberg 9 skplaying mixone mixone skplaying skplaying nnjsinhats skplaying nnjsinhats mixone	4 4 5 2 4 7 2 4	skplaying has 4 victories mixone has 3 victories nnjsinhats has 2 victories sorted by player names: bolt = 4 burger = 4 getleft = 3 + 2 = 5 lake = 2 ref = 4 risen = 4 + 3 = 7 toastberg = 2 warmzera = 4