



ALGERIAN OLYMPIAD IN INFORMATICS

2024 Summer Camp Final Exam

September 19th, 2024

Task 5 - Magic Letters

English Version

This task is worth 100 points

Task 5 : Magic Letters

In the ancient mountains of Georgia, there's a legendary library said to house magical spellbooks from lost civilizations. One day, a brave adventurer named Maya, while exploring the depths of this mystical library, uncovers an old, forgotten spellbook. Its pages are filled with ancient symbols and letters, arranged in perfect grids of N rows and N columns.

As Maya examines the symbols more closely, she realizes that the wizards of old wrote their spells using both uppercase and lowercase letters, but in their magic, "A" and "a" hold the same power. Now, Maya needs to count how many times each letter appears, ignoring the case differences, to unlock the secrets of the spellbook.

Your mission is to help Maya by counting the occurrences of each letter on the spellbook's pages. Only report the letters that actually appear—there's no need to disturb the ones that remain hidden in the spells.

Your program will get as input the number N, then N lines of N alphabetical letters, and will have to output the number of occurrences of each letter of the alphabet (in alphabetical order) except the ones that don't appear at all.

Examples

Input	Output
4	A: 4
abCd	B: 4
dCbS	C: 5
aaBc	D: 2
cABc	S: 1