

Problem 2. Excel Functions

You will receive a table as an input - matrix with several rows and cols. The first row is the header row. Each header can have some **filter** applied. As a second parameter you will receive a command. You should execute the command and print the table **filtered, sorted or modified**.

Commands:

- **hide {header}**

If you receive hide command, delete the column with the corresponding header.

- **sort {header}**

If you receive sort command, sort the rows in the table by the header given in **ascending order**. **Note** that the header row should **not** be sorted.

- **filter {header} {value}**

If you receive filter command, return the rows with the value given in the corresponding header.

Input / Constraints

You will receive as first parameter multidimensional array of strings, and a string as second parameter - a command. The input will always be valid.

Output

Print on the console each of the table`s rows; rows elements should be separated by " | ";

Examples

Input	Output
4 name, age, grade Peter, 25, 5.00 George, 34, 6.00 Marry, 28, 5.49 sort name	name age grade George 34 6.00 Marry 28 5.49 Peter 25 5.00
Input	Output
4 firstName, age, grade, course Peter, 25, 5.00, C#-Advanced George, 34, 6.00, Tech Marry, 28, 5.49, Ruby filter firstName Marry	firstName age grade course Marry 28 5.49 Ruby

... Use filters to temporarily hide some of the data in a table, so you can focus on the data you want ...