

Problem 1 - The Pianist

Problem for exam preparation for the ["JS Front-End" course @ SoftUni](#).

Submit your solutions in the SoftUni judge system at <https://judge.softuni.org/Contests/3878/Exam-Preparation-I>.

You are a pianist, and you like to keep a list of your favorite piano pieces. Create a program to help you organize it and add, change, remove pieces from it!

On the first line of the standard input, you will receive an integer **n** – the **number of pieces** you will initially have. On the next **n** lines, the **pieces themselves** will follow with their **composer** and **key**, separated by "|" in the following format: "{piece}|{composer}|{key}".

Then, you will be receiving different **commands**, each on a new line, separated by "|", until the **"Stop"** command is given:

- **"Add|{piece}|{composer}|{key}"**:
 - You need to **add the given piece** with the information about it to the other pieces and print:
"{piece} by {composer} in {key} added to the collection!"
 - If the piece is **already in the collection**, print:
"{piece} is already in the collection!"
- **"Remove|{piece}"**:
 - If the piece is in the collection, **remove it** and print:
"Successfully removed {piece}!"
 - Otherwise, print:
"Invalid operation! {piece} does not exist in the collection."
- **"ChangeKey|{piece}|{new key}"**:
 - If the piece is in the collection, **change its key with the given one** and print:
"Changed the key of {piece} to {new key}!"
 - Otherwise, print:
"Invalid operation! {piece} does not exist in the collection."

Upon receiving the **"Stop"** command, you need to print all pieces in your collection in the following format:
"{Piece} -> Composer: {composer}, Key: {key}"

Input/Constraints

- You will receive a **single integer** at first – the **initial number of pieces in the collection**
- For each piece, you will receive a single line of text with information about it.
- Then you will receive multiple commands in the way described above until the command **"Stop"**.

Output

- All the output messages with the appropriate formats are described in the problem description.

Examples

Input	Output
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<pre>['3', 'Fur Elise Beethoven A Minor', 'Moonlight Sonata Beethoven C# Minor', 'Clair de Lune Debussy C# Minor', 'Add Sonata No.2 Chopin B Minor', 'Add Hungarian Rhapsody No.2 Liszt C# Minor', 'Add Fur Elise Beethoven C# Minor', 'Remove Clair de Lune', 'ChangeKey Moonlight Sonata C# Major', 'Stop']</pre>	<p>Sonata No.2 by Chopin in B Minor added to the collection!</p> <p>Hungarian Rhapsody No.2 by Liszt in C# Minor added to the collection!</p> <p>Fur Elise is already in the collection!</p> <p>Successfully removed Clair de Lune!</p> <p>Changed the key of Moonlight Sonata to C# Major!</p> <p>Fur Elise -> Composer: Beethoven, Key: A Minor</p> <p>Moonlight Sonata -> Composer: Beethoven, Key: C# Major</p> <p>Sonata No.2 -> Composer: Chopin, Key: B Minor</p> <p>Hungarian Rhapsody No.2 -> Composer: Liszt, Key: C# Minor</p>
Comments	
<p>After we receive the initial pieces with their info, we start receiving commands. The first two commands are to add a piece to the collection, and since the pieces are not already added, we manage to add them. The third add command, however, attempts to add a piece, which is already in the collection, so we print a special message and don't add the piece. After that, we receive the remove command, and since the piece is in the collection, we remove it successfully.</p> <p>Finally, the last command says to change the key of a piece. Since the key is present in the collection, we modify its key.</p> <p>We receive the Stop command, print the information about the pieces, and the program ends.</p>	
Input	Output
<pre>['4', 'Eine kleine Nachtmusik Mozart G Major', 'La Campanella Liszt G# Minor', 'The Marriage of Figaro Mozart G Major', 'Hungarian Dance No.5 Brahms G</pre>	<p>Spring by Vivaldi in E Major added to the collection!</p> <p>Successfully removed The Marriage of Figaro!</p> <p>Invalid operation! Turkish March does not exist in the collection.</p> <p>Changed the key of Spring to C Major!</p> <p>Nocturne by Chopin in C# Minor added to the collection!</p>

Minor', 'Add Spring Vivaldi E Major', 'Remove The Marriage of Figaro', 'Remove Turkish March', 'ChangeKey Spring C Major', 'Add Nocturne Chopin C# Minor', 'Stop']	Eine kleine Nachtmusik -> Composer: Mozart, Key: G Major La Campanella -> Composer: Liszt, Key: G# Minor Hungarian Dance No.5 -> Composer: Brahms, Key: G Minor Spring -> Composer: Vivaldi, Key: C Major Nocturne -> Composer: Chopin, Key: C# Minor
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