Problem 3. Quests Journal

As a young adventurer, you start new quest every day, until you retire.

Input / Constraints

You start your adventurer path, receiving a journal with some beginner quests, separated with **','** (comma and space). After that, until receiving **"Retire!"** you will be receiving different commands.

Commands:

- **"Start - {quest}"** – Receiving this command, you should add the given quest in your journal. If the quest already **exists**, you should **skip** this line.
- **"Complete - {quest}"** – You should remove the quest from your journal, **if it exists**.
- **"Side Quest - {quest}:{sideQuest}"** – You should check **if the quest exists**, if so, **add** the side quest **after** the **quest**. Note that you **shouldn`t add** the **sideQuest** if it already exists.
- **"Renew – {quest}"** – If the given quest exists, you should change its position and **put it last** in your journal.

Output

After receiving **"Retire!"** print the quests in the journal, separated by **", "** (comma and space).

Examples

Input	Output
Hello World, For loop, If else Start - While loop Complete - For loop Retire!	Hello World, If else, While loop

Input	Output
Hello World, If else Complete - Homework Side Quest - If else:Switch Renew - Hello World Retire!	If else, Switch, Hello World

...! a game where every hero wins the day with shiny armor and a smile...