

Problem 2. Tank Collector

Tom is a world of tanks player and he likes to collect premium tanks. You will **receive a list** of the premium vehicles Tom already owns, **on a single line separated by ", "**. The next input will be **n** lines of commands that may be one of the following:

- **Add, {tankName}**: Check if he already owns the wanted tank.
 - If he owns it, **print on console: "Tank is already bought"**
 - If not, **print on console: "Tank successfully bought"** and **add it** to the list of tanks.
- **Remove, {tankName}**: Check if he owns the tank.
 - If he owns the tank **print on console: "Tank successfully sold"** and **remove it** from the list of tanks.
 - If he does not own the tank, **print on console: "Tank not found"**
- **Remove At, {index}**: Check if the **index** is in the range of the list.
 - If not **print on console: "Index out of range"** and continue.
 - If it's in range, **remove at the given index** and **print on console: "Tank successfully sold"**
- **Insert, {index}, {tankName}**: Check if the **index** is in range of the list and **check if he already owns the tank**.
 - If not **print on console: "Index out of range"** and continue.
 - If the index is in range and he doesn't own the tank, then **add the tank at the given index** and **print on console:**
 - **"Tank successfully bought"**
 - If the tank is in range, but he owns it already than **print on console:**
 - **"Tank is already bought"**

After you go through all the commands you should **print** the list of tanks **on a single line separated by ", "**.

Input

- The **first input** will contain the **list of already owned tanks**.
- The **second input** will be the **number of commands** – an **integer number** in range [0...50].
- On the **next input** you will be receiving **n** (number from the second input) commands.

Output

- As output you must print a single line containing the elements of the list, **joined by ", "**.

Examples

Input	Output
<code>T-34-85 Rudy, SU-100Y, STG`, 3, [`Add, King Tiger(C)` `Insert, 2, IS-2M` `Remove, T-34-85 Rudy`]</code>	<code>Tank successfully bought Tank successfully bought Tank successfully sold SU-100Y, IS-2M, STG, King Tiger(C)</code>
Comments	

The first command gives the tank list so its splitted and added into the list.

"T-34-85 Rudy, SU-100Y, STG"

The second commands gives the number of commands that will be received.

"3"

The Add command adds the tank to the list after the necessary checks.

"Add, King Tiger(C)" - "Tank successfully bought"

The Insert commands also adds the tank at the given spot after the necessary checks. "Insert, 2, IS-2M" - "Tank successfully bought"

The Remove command is the last one and after the checks the tank is sold.

"Remove, T-34-85 Rudy" - "Tank successfully sold"

After that we print the list on the console.

"SU-100Y, IS-2M, STG, King Tiger(C)"

T 34, T 34 B, T92, AMX 13 57

4

Add, T 34

Remove, AMX CDC

Insert, 10, M60

Remove At, 1

Tank is already bought

Tank not found

Index out of range

Tank successfully sold

T 34, T92, AMX 13 57