

Contact List



Create a program that helps you keep track of the **contacts** that you have. You will **receive** the **list** of **contacts** you already have on a **single line**, **separated** by a **single space** in the following format:

"{contact₁} {contact₂} {contact₃}... {contact_n}"

Then you will receive commands that you need to execute over your list. There are **four possible commands**:

- **"Add {contact} {index}":**
 - If **{contact}** **isn't** already **contained** – add it in the **end** of the collection.
 - If **{contact}** **is** already **contained** – add it on the **given index**, if the **index exists** and delete it from the **old index**.
- **"Remove {index}"**
 - **Remove** the contact on the given index, if the **index exists**.
- **"Export {startIndex} {count}":**
 - Print the **next {count} contacts** starting from the **given {startIndex}** (including), separated by a **single space**. If the **count** requested is **more than the contacts**- just **print them to the end**.
"{contact} {contact} {contact}"
- **"Print Normal/Reversed"**
 - **Print** the contact **list** in **normal** (in the order they have been added) or **reversed order** and then **stop the program**:
"Contacts: {contact₁} {contact₂}... {contact_n}"

Input

- On the **1st line**, you will receive the **starting list** with the **names of the contacts** **separated** by a **single space**.
- On the **next lines**, you will receive commands in the **format described** above.

Output

- Print the needed output upon the **"Export"** command.
- Print the **list after the manipulations** upon the **"Print"** command in the **format described** above.

Examples

Input	Output
Alisson Bellamy Candace Tristan Remove 3 Add Bellamy 2 Print Normal	Contacts: Alisson Bellamy Bellamy Candace
Comments	
<p>First, we receive the “Remove 3” command, so we remove the contact at index 3 (“Tristan”).</p> <p>Then, we receive the command “Add Bellamy 2” but we already have “Bellamy” in our collection, so we add it on index 2.</p> <p>Lastly, we have to print the collection in normal order, so our output is: “Contacts: Alisson Bellamy Bellamy Candace”</p>	
Zayn Katy Ariana Avril Nick Mikolas Remove 3 Add Jacob 0 Export 0 3 Export 3 8 Print Reversed	Zayn Katy Ariana Nick Mikolas Jacob Contacts: Jacob Mikolas Nick Ariana Katy Zayn