

Archery Tournament

Our hero Iskren is going to take part in an archery tournament. Your task is to help him calculate his points.

On the **first line** you will receive integers separated by "|", representing the targets in the archery field.

On the next lines until you receive "**Game over**" command, you will receive commands by the Judge of the tournament:

- "**Shoot Left@{start index}@{length}**":
 - Iskren starts traversing the archery field to the **left** from **{start index}** with given **{length}**.
 - If he goes **out of the field**, he will continue from the **end of the field**.
- "**Shoot Right@{start index}@{length}**":
 - Iskren starts traversing the archery field to the **right** from **{start index}** with given **{length}**.
 - If he goes **out of the field**, he will continue from the **start of the field**.
- "**Reverse**":
Reverse the archery field.
- "**Game Over**"
Print the archery field and collected points.

When **he arrives at the target**, he will shoot at it and **increase his points by 5** and **decrease the target by 5 points**, if the **target points are less than 5**, he takes **all of them and decreases it to 0**. If the **start index is out of range** of the field Iskren will have to **ignore the command**.

Input

- On the **first line**, you will receive integers **separated by "|"** representing the **targets in the archery field**.
- On the **next lines**, until the "**Game over**" command you will receive **commands** in the **format described above**.

Output

- Print the field in following format: "**{target} - {target} - {target} - {target}**".
"**Iskren finished the archery tournament with {points}!**"

Examples

Input	Output
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10 10 10 10 10 Shoot Left@0@2 Shoot Right@4@5 Shoot Right@6@5 Reverse Game over	5 - 5 - 10 - 10 - 10 Iskren finished the archery tournament with 10 points!
Comments	
First, Iskren receives the "Shoot Left@0@2" command, so he starts traversing the archery field from index 0 with length 2 and he stops at index 3. He shoots and the archery field looks like this: 10 - 10 - 10 - 5 - 10 , and his points are 5. Then he receives "Shoot Right@4@5" -> "10 - 10 - 10 - 5 - 5" "Shoot Right@6@5" -> Index 6 is out of range of the field , so Iskren ignores the command. "Reverse"-> After that command the field looks like this: 5 - 5 - 10 - 10 - 10	
20 30 40 50 60 Shoot Left@0@12 Shoot Right@4@15 Shoot Left@6@5 Reverse Game over	55 - 45 - 40 - 30 - 20 Iskren finished the archery tournament with 10 points!