

Programming Fundamentals Mid Exam Retake 07 April 2020

Problem 3. Moving Target

You are at the shooting gallery again and you need a program that helps you keep track of moving targets. On the first line, you will receive a **sequence of targets with their integer values**, split by a **single space**. Then, you will start receiving **commands for manipulating the targets**, until the **"End"** command. The commands are the following:

- **Shoot {index} {power}**
 - Shoot the target at the index, **if it exists** by **reducing its value** by the **given power (integer value)**. A target is considered **shot** when **its value reaches 0**.
 - Remove the target, **if it is shot**.
- **Add {index} {value}**
 - Insert a target with the received value at the received **index**, **if it exist**. If not, print: **"Invalid placement!"**
- **Strike {index} {radius}**
 - Remove the **target at the given index** and the **ones before and after it** depending on the **radius**, if such exist. If any of the indices in the range is **invalid** print: **"Strike missed!"** and skip this command.

Example: **Strike 2 2**

{radius}	{radius}	{strikeIndex}	{radius}	{radius}		
}	}	x}	}	}		

- **End**
 - Print the sequence with targets in the following format:
{target₁} | {target₂} ... | {target_n}

Input / Constraints

- On the **first line** you will receive **the sequence of targets – integer values [1-10000]**.
- On the **next lines**, until the **"End"** will be receiving the command described above – **strings**.
- There will never be a case when **"Strike"** command would empty the whole sequence.

Output

- Print the appropriate message in case of **"Strike"** command if necessary.
- In the end, print the sequence of targets in the format described above.

Examples

Input	Output	Comments
52 74 23 44 96 110 Shoot 5 10 Shoot 1 80 Strike 2 1 Add 22 3 End	Invalid placement! 52 100	The first command is "Shoot" , so we reduce the target on index 5 , which is valid, with the given power – 10 . Then we receive the same command but we need to reduce the target on the 1st index , with power 80. The value of this target is 74, so it is considered shot and we remove it .

		<p>Then we receive the "Strike" command on the 2nd index and we need to check if the range with radius 1 is valid:</p> <p>52 23 44 96 100</p> <p>And it is, so we remove the targets.</p> <p>At last we receive the "Add" command, but the index is invalid so we print the appropriate message and in the end we have the following result:</p> <p>52 100</p>
47 55 85 78 99 20 Shoot 1 55 Shoot 8 15 Strike 2 3 Add 0 22 Add 2 40 Add 2 50 End	Strike missed! 22 47 50 40 85 78 99 20	