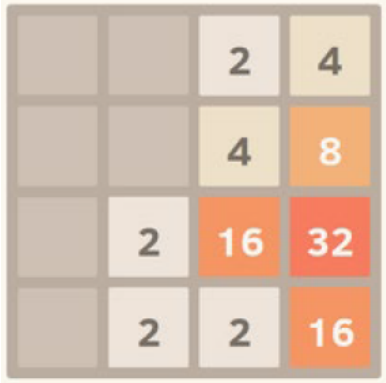
Problem A
2048

Time limit: **3 seconds**

Memory limit: **1024 megabytes**

Problem Description

2048 is an easy and fun puzzle game. Even if you do not love numbers you will love this game. It is played on a 4×4 grid using the arrows or W, A, S, D keys alternatively. Every time you press a key - all tiles slide. Tiles with the same value that bump into one-another are merged.



The original 2048 game is 2-dimensional puzzle game. Now, we consider an easy 2048 game, 1-dimensional puzzle game (1D-2048). The 1D-2048 game is similar as the original 2048 game. But, it played on a n array with only using two arrows, left (L) and right (R), alternatively. The other rules are same as the original 2048 game.

For example, given 2 2 2. It will obtain 0 2 4 if we use R one time. And it will obtain 4 2 0 if we use L one time.

Input Format

There are several test cases. Each test case contains two lines. The first line contains an integer I and a string S, which separate by a space. The integer I indicates the length of array, and the string S indicates the instructions which consist of L and R. The second line contains I integers which indicate the numbers in the array.

Output Format

For each test case, output the final array after executing the instructions.

Technical Specification

- $1 \leq I \leq 200$.
- $1 \leq |S| \leq 1,000,000$ (the length of instructions).

Sample Input 1

```
3 R
2 2 2
4 LL
2 2 2 2
```

Sample Output 1

```
0 2 4
8 0 0 0
```