Lab 05 - Balls

Objective

To practice on the use of STL List, a **Doubly Linked List**.

Problem Description

There are **N** balls labeled with 1, 2, 3,…, **N**, from left to right being stored in a list. Now, we want to do two kinds of operations:

1. "**A x y**": move the ball labeled x to the immediate left of the ball labeled y, where x ≠ y.
   Note that if x is on the left of y, then this operation has no effect.
2. "**B x y**": move the ball labeled x to the immediate right of the ball labeled y, where x ≠ y.
   Note that if x is on the right of y, then this operation has no effect.
3. "**R x**": remove the ball labeled x.

Print the final arrangement after **M** operations.

Input

The first line contains two integers, **N** (1<= **N** <= 1,000) and **M** (1<= **M** <= 1,000). The next **M** lines contain the operations.

Output

Output the final arrangement of the **N** balls from left to right. **Each number is followed by a whitespace.**

Sample Input

```
10 5
A 2 1
A 10 1
A 1 6
B 6 9
R 3
```

Sample Output

```
2 10 1 4 5 7 8 9 6
```

Explanation

0th operation: 1 2 3 4 5 6 7 8 9 10
1st operation: 2 1 3 4 5 6 7 8 9 10
2nd operation: 2 10 1 3 4 5 6 7 8 9
3rd operation: 2 10 1 3 4 5 6 7 8 9 (no effect)
4th operation: 2 10 1 3 4 5 7 8 9 6
5th operation: 2 10 1 4 5 7 8 9 6 (3 removed)

The output is the previous line.

Program Submission

Submit your solution as a file named ***Lab05g<LabGroupNo><MatricNo>.zip*** into the correct folder.