

Remember Previous Queries?

Problem

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Problem Statement

You have a doubly linked list which is **empty** initially. Then you will be given **Q** queries. In each query you will be given two values **X** and **V**.

- If **X** is **0** that means you will insert the value **V** to the head of the linked list.
- If **X** is **1** then you will insert the value **V** to the tail of the linked list.
- If **X** is **2** then you will delete the value **V**th index of the linked list. Assume that index starts from 0. If the index is invalid, then you shouldn't perform the deletion.
- After each query you need to print the linked list from both left to right and right to left.

Note: You must use **STL List**, otherwise you will not get marks.

Input Format

- First line will contain **Q**.
- Next **Q** lines will contain **X** and **V**.

Constraints

1. $1 \leq Q \leq 1000$;
2. $0 \leq X \leq 2$;
3. $0 \leq V \leq 10^9$

Output Format

- For each query print the linked list from left to right and right to left or print "Invalid" as asked.
- Print "L -> " before printing the linked list from left to right.
- Print "R -> " before printing the linked list from right to left.

Sample Input 0

```
4
0 10
1 20
1 30
0 40
```

Sample Output 0

```
L -> 10
R -> 10
L -> 10 20
R -> 20 10
L -> 10 20 30
R -> 30 20 10
```

```
L -> 40 10 20 30
R -> 30 20 10 40
```

Sample Input 1

```
9
0 10
2 1
2 0
1 20
0 10
2 2
2 1
2 2
2 0
```

Sample Output 1

```
L -> 10
R -> 10
L -> 10
R -> 10
L ->
R ->
L -> 20
R -> 20
L -> 10 20
R -> 20 10
L -> 10 20
R -> 20 10
L -> 10
R -> 10
L -> 10
R -> 10
L ->
R ->
```

Sample Input 2

```
11
0 10
2 5
1 20
1 30
0 40
2 0
0 50
2 2
1 60
2 3
2 3
```

Sample Output 2

```
L -> 10
R -> 10
L -> 10
R -> 10
L -> 10 20
R -> 20 10
L -> 10 20 30
R -> 30 20 10
L -> 40 10 20 30
R -> 30 20 10 40
L -> 10 20 30
R -> 30 20 10
L -> 50 10 20 30
R -> 30 20 10 50
L -> 50 10 30
R -> 30 10 50
L -> 50 10 30 60
R -> 60 30 10 50
L -> 50 10 30
R -> 30 10 50
```

```
L -> 50 10 30
R -> 30 10 50
```

Sample Input 3

```
10
1 4
2 1
0 9
0 10
2 2
1 5
2 0
2 1
2 5
2 2
```

Sample Output 3

```
L -> 4
R -> 4
L -> 4
R -> 4
L -> 9 4
R -> 4 9
L -> 10 9 4
R -> 4 9 10
L -> 10 9
R -> 9 10
L -> 10 9 5
R -> 5 9 10
L -> 9 5
R -> 5 9
L -> 9
R -> 9
L -> 9
R -> 9
L -> 9
R -> 9
```



Submissions: [456](#)

Max Score: 20

Difficulty: Easy

Rate This Challenge:



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C++20



```
1 #include <bits/stdc++.h>
2
3 using namespace std;
4
5
6
7 int main()
8 {
9     // Write your code here
10
11     return 0;
12 }
13
```

Line: 1 Col: 1

[Upload Code as File](#) ☐ [Test against custom input](#)

Run Code

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