The Eunimart's Social Network

In a social network, online communities refer to the group of people with an interest towards the same topic. People connect with each other in a social network. A connection between Person I and Person J is represented as C I J. When two persons belonging to different communities connect, the net effect is merger of both communities which I and J belonged to.

We are only interested in finding out the communities with the member count being an even number. Your task is to find out those communities.

Input Format

Input will consist of three parts, viz.

1. The total number of people on the social network (N)
2. Queries C I J, connect I and J Q 0 0, print the number of communities with even member-count -1 will represent end of input.

Constraints

1<=N<=10^6

1<=I, J<=N

Output Format

For every Q, print number of groups/communities where the groups have even number of members

Sample Input 0

```
5
Q 0 0
C 1 2
Q 0 0
C 2 3
Q 0 0
C 4 5
Q 0 0
-1
```

Sample Output 0

```
0
1
0
1
```

Explanation 0

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For first query there are no members in any of the groups hence answer is 0.
After C 1 2, there is a group (let's take it as G1) with 1 and 2 as members hence       total count at this moment is 1.
After C 2 3 total members in G1 will become {1, 2, 3} hence there are no groups with     even count.
After C 4 5 there formed a new group G2 with {4, 5} as members, hence the total         groups with even count is 1.
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