# 1417   Traffic Jam

The kingdom of Tripbansai has an unusual traffic system. The city locations in the kingdom can be described as a grid and all the roads connect neighboring cities. This rectangular grid has 2 rows and $C$ columns where every point represents a city. So there are $2 * C$ cities and $3 * C - 2$ roads in this system.

    Sometimes two adjacent cities become disconnected because of traffic jam, and sometimes the traffic problem has been solved so that a road can be used again. We can assume that every road is closed at first.

    Ministry of Communications will give some instructions to you. Your task is to implement a program as a traffic response information system.

    Each instruction appears as a single line in one of the formats below:

| | |
|---|---|
| `Close` $r_1$ $c_1$ $r_2$ $c_2$ | Close the road connecting the adjacent cities located on $(r_1, c_1)$ and $(r_2, c_2)$. |
| `Open` $r_1$ $c_1$ $r_2$ $c_2$ | Open the road connecting the adjacent cities located on $(r1, c1)$ and $(r2, c2)$. |
| `Ask` $r_1$ $c_1$ $r_2$ $c_2$ | Reply with 'Y' if there exists a way from the city on $(r_1, c_1)$ to the city on $(r_2, c_2)$; reply with 'N' if there doesn't. |
| `Exit` | No more requests are forthcoming. The problem should exit. |

## Input

The first line of the input contains a single integer $T$ ($1 \leq T \leq 11$), representing the number of test cases that follow.

    The first line of each test case consists of a single integer $C$ ($1 \leq C \leq 100000$), which is the number of columns.

    There are some lines following, each for an instruction. Each test case ends with an instruction '`Exit`'. There are no more than 100000 instructions in each test case. All the roads are closed initially, and each case is an independent problem.

## Output

For each instruction '`Ask` $r_1$   $c_1$   $r_2$   $c_2$', display a line containing 'Y' or 'N'.

## Sample Input

```
3
2
Open 1 1 1 2
Open 1 2 2 2
Ask 1 1 2 2
Ask 2 1 2 2
Exit
3
Open 1 1 1 2
Ask 1 1 1 2
Close 1 1 1 2
Ask 1 1 1 2
Exit
```

```
2
Open 1 1 1 2
Open 1 2 2 2
Open 2 1 2 2
Ask 1 1 2 1
Exit
```

## Sample Output

```
Y
N
Y
N
Y
```