Triomino Game

X and Y are playing the following game: They start with an empty 2xN board and move alternately. X moves first. In a move, a player must place an L-triomino (shown on the right), in any of the 4 possible orientations, on the board. The piece placed must not overlap with a piece that has already been placed. The player that is unable to make a valid move loses.

Given the size of the board, find out who will win the game assuming that both X and Y play optimally

Input

Input consists of multiple test-cases. The first line contains a single integer T, the number of test cases. (T<=50)

Each test-case consists of a single line containing a single integer N, the size of the board. (N<=800)

Output

For each test-case, output a single line containing "X" or "Y" depending on who wins that game.

Example

Input:
2
3
4

Output:
X
Y