Problem D. Drawing Hell

Input file:	*standard input*
Output file:	*standard output*
Time limit:	1 second
Memory limit:	512 mebibytes

You feel tired after solving many coprime heaven puzzles. Nozomi thinks coprime heaven is also too easy for her now, and single player card game is too boring. So she want to play a interesting two player game called "Drawing Hell" with you.

At the beginning, you and Nozomi draw n lucky points on a blank page of the textbook. You and Nozomi move in turns. Nozomi goes first. In each turn, one can draw a straight segment to connect two lucky points, if it does not cross over any existing segment and/or lucky points. The player who cannot move loses. Note that you can connect a point more than once, and the first game in sample input will finish in three turns.

You and Nozomi will play this game T times during the class. As we know, Nozomi is very smart and will play optimally. Is there any chance you will win the game?

Input

The first line contains an integer T, followed by the input of T games. Each game starts with a line contains an integer n. Each of the following n lines contains two integer x_i, y_i denoting the coordinates of each lucky points.

- $1 \leq T \leq 1000$
- $1 \leq n \leq 1000$
- $0 \leq |x_i|, |y_i| \leq 1000$
- All the lucky points are distinct.

Output

For each game, please output "`OwO`" if you may win even when Nozomi plays optimally. Otherwise, please output "`T^T`".

Examples

standard input	standard output
3 3 0 0 0 4 4 0 4 0 0 0 4 4 0 1 1 4 0 0 0 4 4 0 2 2	T^T OwO T^T