Consider a two-player game with \( n \) rectangles. Initially, each rectangle \( i \) has \( r_i \) rows and \( c_i \) columns. Alternating moves, each player chooses any rectangle \( i \) (that has not been fully removed yet), and removes the top row or the left column from it, thus reducing the size to either \((r_i - 1) \times c_i\) or \(r_i \times (c_i - 1)\), respectively. The player that eventually cannot make any move loses the game.

Please write a program that tells if, with perfect play, the first player can win a given game.

**Input**

Input consists of several cases. Every case begins with the number of rectangles \( n \), followed by \( n \) pairs of integer numbers \( r_i \) and \( c_i \). Assume \( 1 \leq n \leq 10^5 \) and \( 1 \leq r_i, c_i \leq 10^9 \).

**Output**

For every case, print “wins” or “loses”.

**Sample input**

```
1 1 5
1 2 2
1 5 9
1 5 4
2 1 5 5 4
2 1 6 5 4
3 1000000000 1 999999999 2 999999996 999999998
```

**Sample output**

```
wins
losses
losses
wins
losses
wins
losses
```

**Problem information**

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