

Stone Removing Game

Consider the following game. The game is played on a 5 x 5 board. Initially every array cell has a piece in it. Two players remove pieces alternatively from the board. The player can remove any number of consecutive pieces in a row or column. For example, in the configuration depicted below where one indicates a piece, the player can either remove one piece (**A1**, **A2**, or **B1**), or remove two pieces (**A1** and **A2**, or **A1** and **B1**) simultaneously. The game ends when one player is forced to take the last piece, and the other player wins the game.

	1	2	3	4	5
A	1	1	0	0	0
B	1	0	0	0	0
C	0	0	0	0	0
D	0	0	0	0	0
E	0	0	0	0	0

Write a program that evaluates board configurations from this game. The program must output "winning" when there exists a winning move that no matter how the opponent responds, it will force the opponent to take the last piece. Otherwise, the program must output "losing".

Input

The first line contains **n**, the number of test cases. For each test case, a 5x5 grid of an initial game configuration is shown.

Output

For each case, output "winning" or "losing".

Example

Input:

```
1
1 0 0 0 0
1 1 0 0 0
1 1 1 0 0
1 1 1 1 0
1 1 1 1 1
```

Output:

```
winning
```