

Ten Knights

In the game of chess, a knight moves in a characteristic L-shaped jump, one square in one direction and two squares in the other direction. You are working on a puzzle in which the player is asked to place ten or more knights on a 5×5 chessboard so that no two knights attack each other. Your goal is to evaluate a solution. A solution with less than ten knights is invalid; with ten it is valid; eleven is considered excellent; more than eleven is incredible.

Input

The input consists of five lines of five characters each. The characters are either “**k**”, which indicates the placement of a knight, or “.” (period) indicating an empty space on the board.

Output

A single line containing the outcome: **invalid**, **valid**, **excellent**, or **incredible**.

Examples

Sample input 1

```
k..k.  
k..k.  
k..k.  
k..k.  
k..k.
```

Sample output 1

```
valid
```

Sample input 2

```
k...k  
k..k.  
k.k..  
k..k.  
k...k
```

Sample output 2

```
invalid
```

Sample input 3

```
k...k  
.k.k.  
..k..  
 k.k.  
k...k
```

Sample output 3

```
invalid
```

Limits

Time limit is 1 second.

Memory limit is 256 megabytes.