Problem 4C: Knights

In the game of chess, knights are unique due to their "L-shaped" movement. A knight can move by either moving two squares sideways and one square up or down, or moving one square sideways and two squares either up or down.

In the Nine Knights puzzle, exactly nine knights must be positioned on a 5-by-5 board so that no knight can attack another knight with a single move.

Given the description of a game configuration, your job is to determine whether or not it represents a valid solution to the Nine Knights puzzle.

Input

The input consists out of:

- five lines each having characters. All characters will be either 'k', indicating the placement of a knight, or '.', indicating an empty space on the board.

Output

Display the word valid if the given chess board is a valid solution to the Nine Knights puzzle. Otherwise, display the word invalid.

Sample Input 1	**Sample Output 1**
...k. ...k. k.k.. .k.k. k.k.k	invalid

Sample Input 2	**Sample Output 2**
....k. k.k.k .k.k. k.k.k	valid

Sample Input 3	**Sample Output 3**
....k. k.k.k .k.k. k...k	invalid