## Knight Game

Chess is the oldest game, but it is still popular these days. For this task we will use only one chess piece – the **Knight**.

The knight moves to the **nearest** square but **not on the same**[**row**](https://en.wikipedia.org/wiki/Glossary_of_chess#rank), [**column**](https://en.wikipedia.org/wiki/Glossary_of_chess#file), or [**diagonal**](https://en.wikipedia.org/wiki/Glossary_of_chess#diagonal). (This can be thought of as moving two squares horizontally, then one square vertically, or moving one square horizontally then two squares vertically— i.e. in an "**L**" pattern.)

The knight game is played on a board with dimensions **N x N** and a lot of chess knights **0 <= K <= N2**.

You will receive a board with **K** for knights and '**0'** for empty cells. Your task is to remove a minimum of the knights, so there will be no knights left that can attack another knight.

### Input

On the first line, you will receive the **N** size of the board

On the next **N** lines, you will receive strings with **Ks** and **0s**.

### Output

Print a single integer with the minimum number of knights that needs to be removed

### Constraints

* Size of the board will be 0 < N < 30
* Time limit: 0.3 sec. Memory limit: 16 MB.

### Examples

|  |  |
| --- | --- |
| **Input** | **Output** |
| 5  0K0K0  K000K  00K00  K000K  0K0K0 | 1 |
| 2  KK  KK | 0 |
| 8  0K0KKK00  0K00KKKK  00K0000K  KKKKKK0K  K0K0000K  KK00000K  00K0K000  000K00KK | 12 |