

Problem 4: Tuples in a Grid

Time Limit: 1 sec

Memory Limit: 32 MB

You have a grid of size $N \times N$. Some of the cells contains a letter. No letter is written more than once in the grid. How many tuple of 3 letters are there such that they all are on a line?
3 letters are considered collinear iff there is a line passing through the center of the 3 cells.

Input Description

First line of the input file contains a number $3 \leq N \leq 100$. Next N line will contain the $N \times N$ grid. The grid may contain letter from 'a' to 'z' (lowercase) and '.' representing an empty cell.

Output Description

Prting how many tuples of 3 letters are there such that they lie on a single line.

Sample

```
Input1
4
...D
..C.
.B..
A...
```

```
Input2
5
..T..
A....
.FE.R
....X
S....
```

```
Output1
4
Output2
3
```

Explanation

Note that in the first sample, you can take these 4 tuples - {A,B,C}, {A,B,D} {A,C,D}, {B,C,D}.
In the second sample, you can take these 3 tuples - {F,E,R}, {A,E,X}, {S,F,T}

Note: If you dont know how to check if 3 points are collinear, you are allowed to use google search :D

Hint: Note that each letter occurs only once in the grid :D This allows you to bruteforce :D