

We have created an infinite eight-directional crossword by taking a letter-filled block of dimensions $M \times N$ and infinitely repeating it. For instance, if we are given the following block:

```
honi
hsin
```

then we create the following crossword:

```
...honihonihonihoni...
...hsinhsinhsinhsin...
...honihonihonihoni...
...hsinhsinhsinhsin...
```

that is infinite in all directions.

In the created crossword, we randomly choose a field and one of eight directions, then write down a word of length K obtained by reading the crossword starting from the initial field, in the chosen direction. If we executed this query twice (independently), we would obtain two words of length K . Calculate the probability that the two words are equal.

INPUT

The first line of input contains integers M, N, K from the task ($1 \leq M, N \leq 500, 2 \leq K \leq 10^9$). Each of the following M lines contains N lowercase letters of the English alphabet, and describes a block of the crossword. At least two distinct letters will exist in the block.

OUTPUT

You must output the required probability in the form of a reduced fraction p/q , without spaces.

SCORING

In test cases worth 100 total points, it will hold $M = N$.

SAMPLE TESTS

input

```
1 2 2
ab
```

output

input

```
2 4 3
honi
hsin
```

output

input

```
3 3 10
ban
ana
nab
```

output

5/16

19/512

2/27