Picture recognition

100points | 10sec

> Standard API: C++, C, Java, Python3
>
> Download : Solution

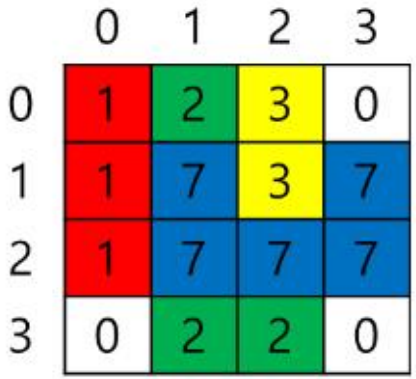
Picture recognition performance test in progress. For testing, paint various colors in a rectangular shape in any order on a white drawing paper of size N * N. We try to find the number of colors that are not painted over the other color through picture recognition.

[Requirements]

For testing, N * N size white drawing paper and color 1 to 9 are prepared. The way to make it is to choose one of the nine colors and paint it in a rectangle shape. Each time, a different color will be selected and painted. You can paint over the other color(already colored space) or paint color in an empty space. It does not tell you how many colors are painted.

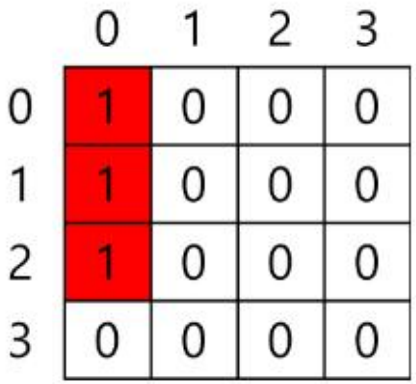
For the test, the relationship to be painted over by color is clearly given. When painting over, the remaining part will be painted so that the overall size of the color can be known. The color of the drawing paper is marked by 0(zero). In other words, 0 means no color has been painted.

For example, if the drawing paper size N is 4, and a given picture is shown below



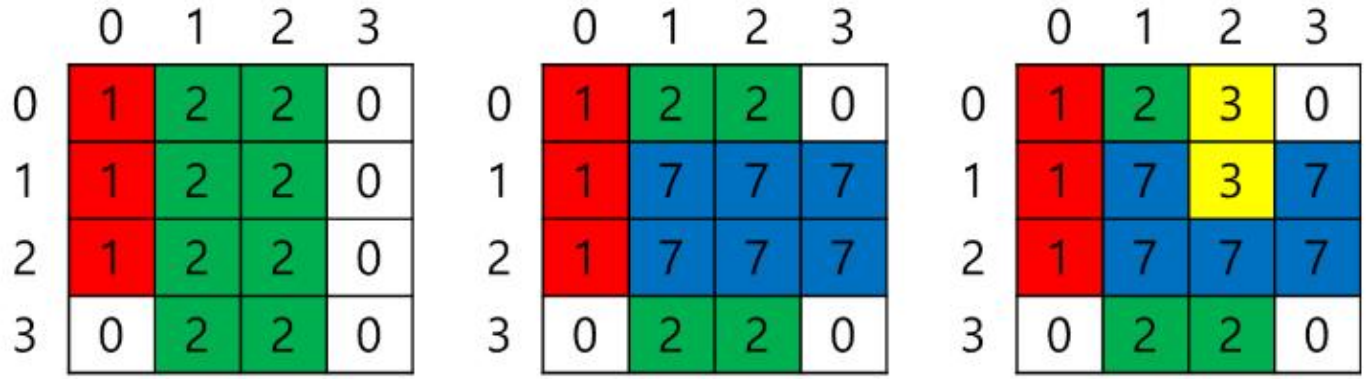
	0	1	2	3
0	1	2	3	0
1	1	7	3	7
2	1	7	7	7
3	0	2	2	0

It can be inferred as follows.



	0	1	2	3
0	1	0	0	0
1	1	0	0	0
2	1	0	0	0
3	0	0	0	0

First, paint in color 1 from (0, 0) to (3 * 1) rectangle. (Vertical* horizontal) order.



Then, paint in color 2 from (0, 1) to (4 * 2) rectangle, color 7 from (1, 1) to (2 * 3) rectangle, lastly, color 3 (0, 2) to (2 * 1) rectangle.

Colors 1 and 2 are painted in an empty space(Is Not painted over other colors), so the answer is 2.
Color 3 is painted over colors 2 and 7, and color 7 is painted over color 2, so it is excluded from the answer.

Calculate how many colors that are not painted over the other color, When the drawing paper size N and the final shape drawn on the drawing paper are given.

[Input format]

In the first line, the drawing paper size N is input (N is an integer, 4 ≤ N ≤ 10)

N line from the second line, color information is input without spaces for each N.

(If the color information is an integer, 0 ≤ color information ≤ 9.

0 means that the color of drawing paper. it was not painted with the color of the drawing paper)

[Output format]

Output the number of colors that are not painted over the other color.

Input/Output Example

␣ : Blank ↲ : Line Break ↹ : Tab

Example 1

Input

```
4↲
1230↲
1737↲
1777↲
0220↲
```

Output

```
2↲
```