

# 1. Strokes to paint

Alex wants to paint a picture. In one stroke, Alex can only paint adjacent cells with the same letter which are connected horizontally or vertically but not diagonally.

Given the painting as a 2-dimensional array of letters, find the minimum number of strokes to completely paint the picture.

**Example:** The canvas with height = 3 and width = 5 is to be painted with *picture=["aabba", "aabba", "aaacb"]*. The diagram below shows the 5 strokes needed to paint the canvas. It takes two strokes each for *a* and *b*, and one for *c*.

Initial Canvas:

a	a	b	b	a
a	a	b	b	a
a	a	a	c	b

Output (No. of Strokes): 5

a	a	b	b	a
a	a	b	b	a
a	a	a	c	b

- Stroke 1
- Stroke 2
- Stroke 3
- Stroke 4
- Stroke 5

# First Question

## Function Description

Complete the function *strokesRequired* in the editor below. The function must return an integer, the minimum number of strokes required to paint the canvas.

*strokesRequired* has the following parameter(s):

*picture[picture[0],...picture[h-1]]*: an array of strings where each string represents one row of the picture to be painted

## Constraints

- $1 \leq h \leq 10^5$
- $1 \leq w \leq 10^5$
- $1 \leq h*w \leq 10^5$
- $\text{len}(\text{picture}[i]) = w$  (where  $0 \leq i < h$ )
- $\text{picture}[i][j] \in \{'a', 'b', 'c'\}$  (where  $0 \leq i < h$  and  $0 \leq j < w$ )

## Sample Input For Custom Testing

```
3
aaaba
ababa
aaaca
```

## Sample Output

```
5
```

## Explanation

Initial Canvas:

a	a	a	b	a
a	b	a	b	a
a	a	a	c	a

Output (N o. of Strokes): 5

a	a	a	b	a
a	b	a	b	a
a	a	a	c	a

- Stroke 1
- Stroke 2
- Stroke 3
- Stroke 4
- Stroke 5

Letter *a* takes 2 strokes, *b* takes 2 strokes and *c* takes 1 stroke for a total of 5.