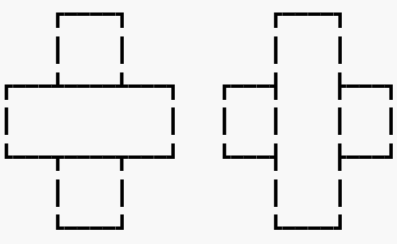
[CS 11] Prac 11c – Criss Cross

Problem Statement

Starting with a white canvas, Bob first selected an axis-aligned rectangle and painted it a certain beautiful color, guaranteed to not be white. But Bob noticed that this rectangle is lonely, so he selected another axis-aligned rectangle and painted it a beautiful vibrant color different from the previous rectangle's, also guaranteed to not be white.

The two rectangles he chose overlapped in a criss-cross way—i.e., in one of the following two ways:



Note that there will always be a bit of each rectangle sticking out on both ends.

Given the painting, determine the dimensions of the rectangle in front and at the back.

Task Details

Your task is to implement a function called `criss_cross_dimensions`. This function has one positional argument, a `tuple` of r `str`s, each of which has length `c`. Each character of each string is either ` ` (a space) or an uppercase letter. The space represents white, and any other letter represents a distinct non-white paint color.

The function must return a pair of pairs of `int`s denoting the dimensions of the first rectangle and then the second rectangle. The dimensions must be given as (row number, column number).

Restrictions

(See 11a for more restrictions)

For this problem in particular:

- The source code limit is 2000.

Example Calls

Example 1 Function Call

```
criss_cross_dimensions((
    '                  ',
    '     XXXXXX       ',
    '     XXXXXX       ',
    '  OOOOOOOOOOOO    ',
    '  OOOOOOOOOOOO    ',
    '     XXXXXX       ',
    '     XXXXXX       ',
    '     XXXXXX       ',
    '     XXXXXX       ',
    '                  ',
    '                  ',
    '                  ',
))
```

Example 1 Return Value

```
((2, 13), (8, 6))
```

Example 2 Function Call

```
criss_cross_dimensions((
    '                  ',
    '     IIIIII       ',
    '     IIIIII       ',
    '  OOOIIIIIIOOOO    ',
    '  OOOIIIIIIOOOO    ',
    '     IIIIII       ',
    '     IIIIII       ',
    '     IIIIII       ',
    '     IIIIII       ',
    '                  ',
    '                  ',
    '                  ',
))
```

Example 2 Return Value

```
((8, 6), (2, 13))
```

Example 3 Function Call

```
criss_cross_dimensions((
    ' O ',
    'LOL',
    ' O ',
))
```

Example 3 Return Value

```
((3, 1), (1, 3))
```

Constraints

- The function `criss_cross_dimensions` will be called at most 20 times.
- $3 \leq r, c \leq 60$
- The input will be valid.

Scoring

- You get 150 ❤️ points if you solve all test cases.

Submit solution [CS 11] Practice 11

Points: 150 (partial)
Time limit: 6.0s
Memory limit: 1G

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Problem type

Allowed languages ~~NONE~~, py3

Clarifications

Report an issue

No clarifications have been made at this time.