[CS 11] Prac 4h – Rotate Painting II

Problem Statement

The story follows 4g—read it for context.

You had so much fun rotating your painting last time that you wanted to do it again! And again, and again...

If you rotate it k times, what would it look like?

Task Details

Your task is to implement a function called `rotate_cw_k`. This function has two parameters:

- `painting` — a `tuple` of `str`s describing the painting. Each character represents a distinct color of the artwork.
- `k` — an `int` denoting the number of times to rotate clockwise.

The function must return a `tuple` of `str`s representing a painting of the same dimensions denoting the state of the painting after all the blocks rotate clockwise k times.

Restrictions

- Recursion is allowed.
- Up to 8 function definitions are allowed.
- Comprehensions are allowed.
- `range` is allowed.
- The symbols `min`, `max`, `sum` and `sorted` are allowed.
- The source code limit is 400.

Example Calls

Example 1 Function Call

Copy

```
rotate_cw_k((
    '.....|.#....',
    '.#...|.#..#.',
    '.#...|.#..#.',
    '.#...|.#..#.',
    '.#...|.#..#.',
    '-----+------',
    '.#.#.|.#....',
    '.#.#.|.#....',
    '.#.#.|.#....',
    '.#.#.|.#.###',
    '.#.#.|.#....',
), 2)
```

Example 1 Return Value

Copy

```
(
    '....#.|.#.#.',
    '###.#.|.#.#.',
    '....#.|.#.#.',
    '....#.|.#.#.',
    '------+-----',
    '.#..#.|...#.',
    '.#..#.|...#.',
    '.#..#.|...#.',
    '.#..#.|...#.',
    '....#.|.....',
)
```

Constraints

- The function `rotate_cw_k` will be called at most 200 times.
- The painting will have at most 20 rows and at most 20 columns.
- $0 \leq k \leq 10^{10}$.

Scoring

- You get 120 ❤️ points if you solve all test cases where:
  - $k \leq 10$
- You get 50 ❤️ points if you solve all test cases.

Submit solution

Points: 170 (partial)
Time limit: 4.0s
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.