

[CS 11] Prac 3k – Door to Door

oj.dcs.upd.edu.ph/problem/cs11prac3k

Problem Statement

There are n homeowners along a street. We will number the homeowners 00 to $n-1$ from left to right.

Two salespeople visited some of the houses in the street today. Each salesperson started by visiting house 00 and then going right, possibly skipping some houses along the way (because there may not be time to visit them all). Specifically:

- The first salesperson starts at house 00 and then visits every x th house to the right.
- The second salesperson starts at house 00 and then visits every y th house to the right.

Given the names of the homeowners, can you enumerate who among them were visited by at least one salesperson?

Task Details

Your task is to implement a function called `gifted`. This function has three parameters:

- The first argument is a `tuple` of n `str`s denoting the names of the homeowners.
- The second argument is the `int` x .
- The third argument is the `int` y .

The function must return a `tuple` of `str`s denoting the names of the homeowners that were visited by at least one salesperson, in the order they appear in the input.

Restrictions

For this problem:

- Recursion is allowed.
- Up to 88 functions are allowed.
- Comprehensions are allowed.
- The `range`, `min`, `max`, and `sum` symbols are allowed.

- The source code limit is 250250.

Example Calls

Example 1 Function Call

Copy

```
gifted((
    'cloud',
    'barret',
    'tifa',
    'aerith',
    'red xiii',
    'cait sith',
    'yuffie',
    'vincent',
    'cid',
), 3, 3)
```

Example 1 Return Value

Copy

```
('cloud', 'aerith', 'yuffie')
```

Example 2 Function Call

Copy

```
gifted((
    'cloud',
    'barret',
    'tifa',
    'aerith',
    'red xiii',
    'cait sith',
    'yuffie',
    'vincent',
    'cid',
), 2, 3)
```

Example 2 Return Value

Copy

```
('cloud', 'tifa', 'aerith', 'red xiii', 'yuffie', 'cid')
```

Constraints

- The function `gifted` will be called at most 200200 times.
- $0 \leq n \leq 500$ $n \leq 50$
- $1 \leq x, y \leq 501$ $x, y \leq 50$
- Each name is nonempty and consists of up to 1010 lowercase English letters or spaces.

Scoring

- You get 100100 ❤️ points if you solve all test cases where:
 - $x=yx = y$
- You get 5050 ❤️ points if you solve all test cases.

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Clarifications

No clarifications have been made at this time.