

2753. Count Houses in a Circular Street II Premium

Hard

Hint

You are given an object `street` of class `Street` that represents a **circular** street and a positive integer `k` which represents a maximum bound for the number of houses in that street (in other words, the number of houses is less than or equal to `k`). Houses' doors could be open or closed initially (at least one is open).

Initially, you are standing in front of a door to a house on this street. Your task is to count the number of houses in the street.

The class `Street` contains the following functions which may help you:

- `void closeDoor()`: Close the door of the house you are in front of.
- `boolean isDoorOpen()`: Returns `true` if the door of the current house is open and `false` otherwise.
- `void moveRight()`: Move to the right house.

Note that by **circular** street, we mean if you number the houses from `1` to `n`, then the right house of `housei` is `housei+1` for `i < n`, and the right house of `housen` is `house1`.

Return `ans` which represents the number of houses on this street.

Example 1:

Input: `street = [1,1,1,1]`, `k = 10`
Output: `4`
Explanation: There are 4 houses, and all their doors are open. The number of houses is less than `k`, which is 10.

Example 2:

Input: `street = [1,0,1,1,0]`, `k = 5`
Output: `5`
Explanation: There are 5 houses, and the doors of the 1st, 3rd, and 4th house (moving in the right direction) are open, and the rest are closed. The number of houses is equal to `k`, which is 5.

Constraints:

- `n == number of houses`
- `1 <= n <= k <= 105`
- `street` is circular by definition provided in the statement.
- The input is generated such that at least one of the doors is open.

Seen this question in a real interview before? 1/5

Yes

No

Accepted 745 | Submissions 1.2K | Acceptance Rate 61.6%

Hint 1

First, imagine that there is exactly one open door and try to solve the problem.

Hint 2

Now close an opened door.

Hint 3

Then visit k houses by going right. If there is no open door, your assumption of having exactly one open door was right, and you have the answer.

Hint 4

If there is still an open door, go to step 1.

Discussion (0)