1642. Furthest Building You Can Reach

Description

You are given an integer array `heights` representing the heights of buildings, some `bricks`, and some `ladders`.

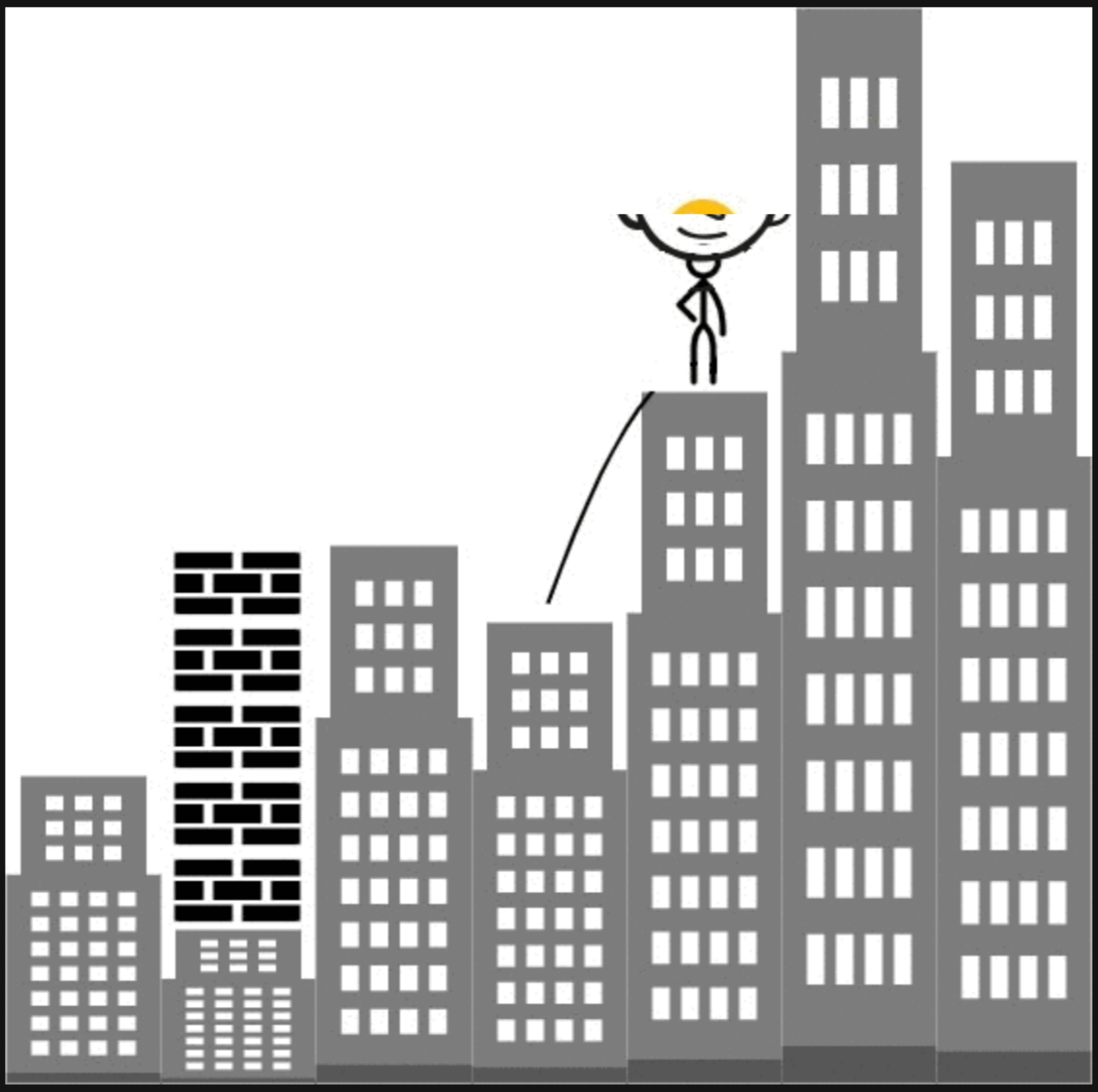
You start your journey from building `0` and move to the next building by possibly using bricks or ladders.

While moving from building `i` to building `i+1` (**0-indexed**),

- If the current building's height is **greater than or equal** to the next building's height, you do **not** need a ladder or bricks.
- If the current building's height is **less than** the next building's height, you can either use **one ladder** or `(h[i+1] - h[i])` **bricks**.

Return the furthest building index (0-indexed) you can reach if you use the given ladders and bricks optimally.

Example 1:



```
Input: heights = [4,2,7,6,9,14,12], bricks = 5, ladders = 1
Output: 4
Explanation: Starting at building 0, you can follow these steps:
- Go to building 1 without using ladders nor bricks since 4 >= 2.
- Go to building 2 using 5 bricks. You must use either bricks or ladders because 2 < 7.
- Go to building 3 without using ladders nor bricks since 7 >= 6.
- Go to building 4 using your only ladder. You must use either bricks or ladders because 6 < 9.
It is impossible to go beyond building 4 because you do not have any more bricks or ladders.
```

Example 2:

```
Input: heights = [4,12,2,7,3,18,20,3,19], bricks = 10, ladders = 2
Output: 7
```

Example 3:

```
Input: heights = [14,3,19,3], bricks = 17, ladders = 0
Output: 3
```

Constraints:

- `1 <= heights.length <=` 10^{5}
- `1 <= heights[i] <=` 10^{6}
- `0 <= bricks <=` 10^{9}
- `0 <= ladders <= heights.length`