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# 5556. Furthest Building You Can Reach

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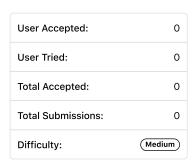
You are given an integer array heights representing the heights of buildings, some bricks, and some ladders.

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
- 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<sup>5</sup> • 1 <= heights[i] <= 10<sup>6</sup>
- $0 <= bricks <= 10^9$
- 0 <= ladders <= heights.length

