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Description

Solution

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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 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 $4 \geq 2$.
- 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 $7 \geq 6$.
- 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:

- $1 \leq \text{heights.length} \leq 10^5$
- $1 \leq \text{heights}[i] \leq 10^6$
- $0 \leq \text{bricks} \leq 10^9$
- $0 \leq \text{ladders} \leq \text{heights.length}$

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```
class Solution {
    public int furthestBuilding(int[] heights, int bricks, int ladders) {
    }
}
```

⌵ Problems

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