

1580. Put Boxes Into the Warehouse II

Description

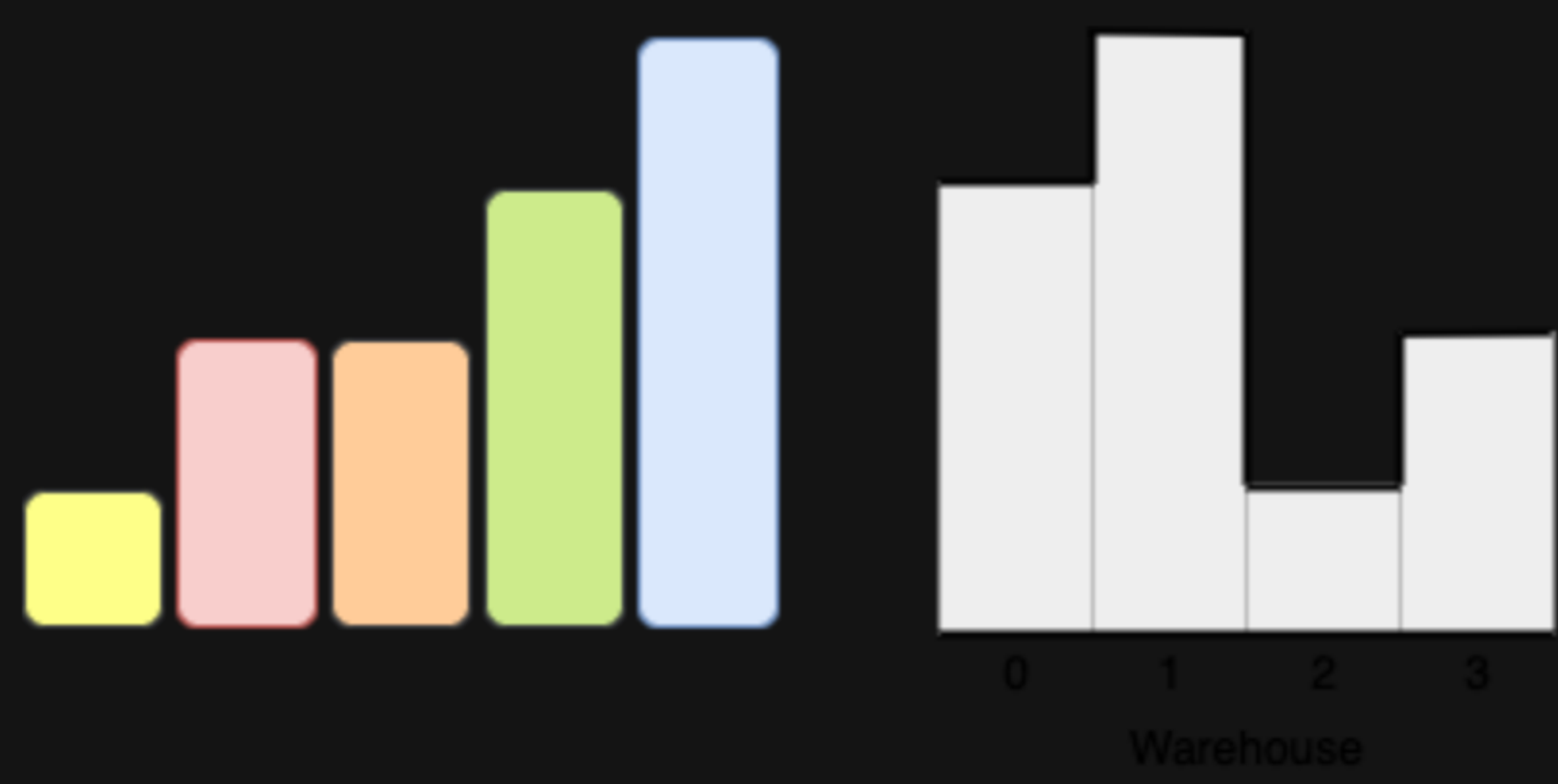
You are given two arrays of positive integers, `boxes` and `warehouse`, representing the heights of some boxes of unit width and the heights of `n` rooms in a warehouse respectively. The warehouse's rooms are labeled from `0` to `n - 1` from left to right where `warehouse[i]` (0-indexed) is the height of the `ith` room.

Boxes are put into the warehouse by the following rules:

- Boxes cannot be stacked.
- You can rearrange the insertion order of the boxes.
- Boxes can be pushed into the warehouse from **either side** (left or right)
- If the height of some room in the warehouse is less than the height of a box, then that box and all other boxes behind it will be stopped before that room.

Return *the maximum number of boxes you can put into the warehouse*.

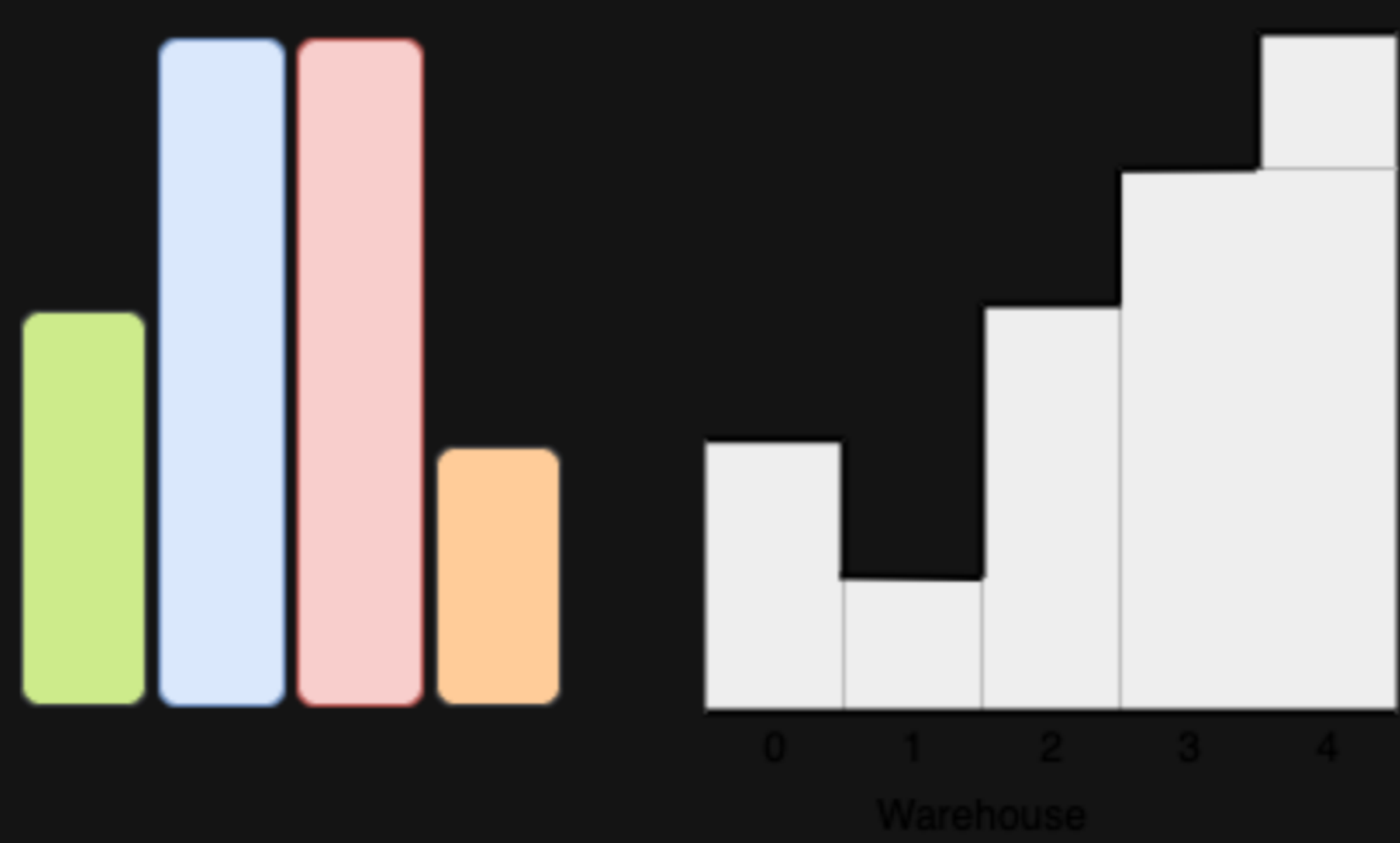
Example 1:



Input: boxes = [1,2,2,3,4], warehouse = [3,4,1,2]
Output: 4
Explanation:

The diagram shows the optimal placement of 4 boxes into the warehouse. The boxes are placed in the following order: 1- Put the yellow box in room 2 from either the left or right side. 2- Put the orange box in room 3 from the right side. 3- Put the green box in room 1 from the left side. 4- Put the red box in room 0 from the left side. Notice that there are other valid ways to put 4 boxes such as swapping the red and green boxes or the red and orange boxes.

Example 2:



Input: boxes = [3,5,5,2], warehouse = [2,1,3,4,5]
Output: 3
Explanation:

The diagram shows the optimal placement of 3 boxes into the warehouse. The boxes are placed in the following order: 1- Put the orange box in room 0 from the left side. 2- Put the green box in room 3 from the left side. 3- Put the red box in room 4 from the left side. It is not possible to put the two boxes of height 5 in the warehouse since there's only 1 room of height ≥ 5 . Other valid solutions are to put the green box in room 2 or to put the orange box first in room 2 before putting the green and red boxes.

Constraints:

- `n == warehouse.length`
- `1 <= boxes.length, warehouse.length <= 105`
- `1 <= boxes[i], warehouse[i] <= 109`

