1064. Fixed Point

Description

Given an array of distinct integers `arr`, where `arr` is sorted in **ascending order**, return the smallest index `i` that satisfies `arr[i] == i`. If there is no such index, return `-1`.

Example 1:

```
Input: arr = [-10,-5,0,3,7]
Output: 3
Explanation: For the given array, arr[0] = -10, arr[1] = -5, arr[2] = 0, arr[3] = 3, thus the output is 3.
```

Example 2:

```
Input: arr = [0,2,5,8,17]
Output: 0
Explanation: arr[0] = 0, thus the output is 0.
```

Example 3:

```
Input: arr = [-10,-5,3,4,7,9]
Output: -1
Explanation: There is no such i that arr[i] == i, thus the output is -1.
```

Constraints:

- `1 <= arr.length < 10^4`
- `-10^9 <= arr[i] <= 10^9`

Follow up: The `O(n)` solution is very straightforward. Can we do better?