Problem 1331: Rank Transform of an Array

Problem Information

Difficulty: Easy
Acceptance Rate: 70.74%
Paid Only: No
Tags: Array, Hash Table, Sorting

Problem Description

Given an array of integers `arr`, replace each element with its rank.

The rank represents how large the element is. The rank has the following rules:

* Rank is an integer starting from 1. * The larger the element, the larger the rank. If two elements are equal, their rank must be the same. * Rank should be as small as possible.

Example 1:

Input: arr = [40,10,20,30] **Output:** [4,1,2,3] **Explanation** : 40 is the largest element. 10 is the smallest. 20 is the second smallest. 30 is the third smallest.

Example 2:

Input: arr = [100,100,100] **Output:** [1,1,1] **Explanation** : Same elements share the same rank.

Example 3:

Input: arr = [37,12,28,9,100,56,80,5,12] **Output:** [5,3,4,2,8,6,7,1,3]

Constraints:

* `0 <= arr.length <= 105` * `-109 <= arr[i] <= 109`

Code Snippets

C++:

```
class Solution {
public:
vector<int> arrayRankTransform(vector<int>& arr) {

}
};
```

Java:

```
class Solution {
public int[] arrayRankTransform(int[] arr) {

}
}
```

Python3:

```
class Solution:
def arrayRankTransform(self, arr: List[int]) -> List[int]:
```