Problem 2491: Divide Players Into Teams of Equal Skill

Problem Information

Difficulty: Medium
Acceptance Rate: 68.90%
Paid Only: No
Tags: Array, Hash Table, Two Pointers, Sorting

Problem Description

You are given a positive integer array `skill` of **even** length `n` where `skill[i]` denotes the skill of the `ith` player. Divide the players into `n / 2` teams of size `2` such that the total skill of each team is **equal**.

The **chemistry** of a team is equal to the **product** of the skills of the players on that team.

Return _the sum of the**chemistry** of all the teams, or return _`-1` _if there is no way to divide the players into teams such that the total skill of each team is equal._

Example 1:

Input: skill = [3,2,5,1,3,4] **Output:** 22 **Explanation:** Divide the players into the following teams: (1, 5), (2, 4), (3, 3), where each team has a total skill of 6. The sum of the chemistry of all the teams is: 1 * 5 + 2 * 4 + 3 * 3 = 5 + 8 + 9 = 22.

Example 2:

Input: skill = [3,4] **Output:** 12 **Explanation:** The two players form a team with a total skill of 7. The chemistry of the team is 3 * 4 = 12.

Example 3:

Input: skill = [1,1,2,3] **Output:** -1 **Explanation:** There is no way to divide the players into teams such that the total skill of each team is equal.

Constraints:

* `2 <= skill.length <= 105` * `skill.length` is even. * `1 <= skill[i] <= 1000`

Code Snippets

C++:

```
class Solution {
public:
long long dividePlayers(vector<int>& skill) {

}
};
```

Java:

```
class Solution {
public long dividePlayers(int[] skill) {

}
}
```

Python3:

```
class Solution:
def dividePlayers(self, skill: List[int]) -> int:
```