Problem 740: Delete and Earn

Problem Information

Difficulty: Medium
Acceptance Rate: 56.97%
Paid Only: No
Tags: Array, Hash Table, Dynamic Programming

Problem Description

You are given an integer array `nums`. You want to maximize the number of points you get by performing the following operation any number of times:

* Pick any `nums[i]` and delete it to earn `nums[i]` points. Afterwards, you must delete **every** element equal to `nums[i] - 1` and **every** element equal to `nums[i] + 1`.

Return _the**maximum number of points** you can earn by applying the above operation some number of times_.

Example 1:

Input: nums = [3,4,2] **Output:** 6 **Explanation:** You can perform the following operations: - Delete 4 to earn 4 points. Consequently, 3 is also deleted. nums = [2]. - Delete 2 to earn 2 points. nums = []. You earn a total of 6 points.

Example 2:

Input: nums = [2,2,3,3,3,4] **Output:** 9 **Explanation:** You can perform the following operations: - Delete a 3 to earn 3 points. All 2's and 4's are also deleted. nums = [3,3]. - Delete a 3 again to earn 3 points. nums = [3]. - Delete a 3 once more to earn 3 points. nums = []. You earn a total of 9 points.

Constraints:

* `1 <= nums.length <= 2 * 104` * `1 <= nums[i] <= 104`

Code Snippets

C++:

```
class Solution {
public:
int deleteAndEarn(vector<int>& nums) {

}
};
```

Java:

```
class Solution {
public int deleteAndEarn(int[] nums) {

}
}
```

Python3:

```
class Solution:
def deleteAndEarn(self, nums: List[int]) -> int:
```