**1402. Reducing Dishes**

Hard

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A chef has collected data on the satisfaction level of his n dishes. Chef can cook any dish in 1 unit of time.

*Like-time coefficient* of a dish is defined as the time taken to cook that dish including previous dishes multiplied by its satisfaction level  i.e.  time[i]\*satisfaction[i]

Return the maximum sum of *Like-time coefficient*that the chef can obtain after dishes preparation.

Dishes can be prepared in **any**order and the chef can discard some dishes to get this maximum value.

**Example 1:**

**Input:** satisfaction = [-1,-8,0,5,-9]

**Output:** 14

**Explanation:** After Removing the second and last dish, the maximum total *Like-time coefficient* will be equal to (-1\*1 + 0\*2 + 5\*3 = 14). Each dish is prepared in one unit of time.

**Example 2:**

**Input:** satisfaction = [4,3,2]

**Output:** 20

**Explanation:** Dishes can be prepared in any order, (2\*1 + 3\*2 + 4\*3 = 20)

**Example 3:**

**Input:** satisfaction = [-1,-4,-5]

**Output:** 0

**Explanation:** People don't like the dishes. No dish is prepared.

**Example 4:**

**Input:** satisfaction = [-2,5,-1,0,3,-3]

**Output:** 35

**Constraints:**

* n == satisfaction.length
* 1 <= n <= 500
* -10^3 <= satisfaction[i] <= 10^3

Accepted

19,033

Submissions

26,361