

1402. Reducing Dishes

Description

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 preparing some amount of dishes.

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 do not like the dishes. No dish is prepared.

Constraints:

- `n == satisfaction.length`
- `1 <= n <= 500`
- `-1000 <= satisfaction[i] <= 1000`

