

2971. Find Polygon With the Largest Perimeter

Description

You are given an array of **positive** integers `nums` of length `n`.

A **polygon** is a closed plane figure that has at least `3` sides. The **longest side** of a polygon is **smaller** than the sum of its other sides.

Conversely, if you have `k` (`k >= 3`) **positive** real numbers `a1`, `a2`, `a3`, ..., `ak` where `a1 <= a2 <= a3 <= ... <= ak` and `a1 + a2 + a3 + ... + ak-1 > ak`, then there **always** exists a polygon with `k` sides whose lengths are `a1`, `a2`, `a3`, ..., `ak`.

The **perimeter** of a polygon is the sum of lengths of its sides.

Return *the largest possible perimeter of a polygon whose sides can be formed from* `nums`, *or* `-1` *if it is not possible to create a polygon*.

Example 1:

```
Input: nums = [5,5,5]
Output: 15
Explanation: The only possible polygon that can be made from nums has 3 sides: 5, 5, and 5. The perimeter is 5 + 5 + 5 = 15.
```

Example 2:

```
Input: nums = [1,12,1,2,5,50,3]
Output: 12
Explanation: The polygon with the largest perimeter which can be made from nums has 5 sides: 1, 1, 2, 3, and 5. The perimeter is 1 + 1 + 2 + 3 + 5 = 12.
We cannot have a polygon with either 12 or 50 as the longest side because it is not possible to include 2 or more smaller sides that have a greater sum than either of them.
It can be shown that the largest possible perimeter is 12.
```

Example 3:

```
Input: nums = [5,5,50]
Output: -1
Explanation: There is no possible way to form a polygon from nums, as a polygon has at least 3 sides and 50 > 5 + 5.
```

Constraints:

- `3 <= n <= 105`
- `1 <= nums[i] <= 109`

