2098. Subsequence of Size K With the Largest Even Sum `Premium`

`Medium` 🏷 Topics 📖 Companies 💡 Hint

You are given an integer array `nums` and an integer `k`. Find the **largest even sum** of any subsequence of `nums` that has a length of `k`.

Return *this sum, or* `-1` *if such a sum does not exist*.

A **subsequence** is an array that can be derived from another array by deleting some or no elements without changing the order of the remaining elements.

Example 1:

```
Input: nums = [4,1,5,3,1], k = 3
Output: 12
Explanation:
The subsequence with the largest possible even sum is [4,5,3]. It has a sum of 4 + 5 + 3 = 12.
```

Example 2:

```
Input: nums = [4,6,2], k = 3
Output: 12
Explanation:
The subsequence with the largest possible even sum is [4,6,2]. It has a sum of 4 + 6 + 2 = 12.
```

Example 3:

```
Input: nums = [1,3,5], k = 1
Output: -1
Explanation:
No subsequence of nums with length 1 has an even sum.
```

Constraints:

- `1 <= nums.length <= 10^5`
- `0 <= nums[i] <= 10^5`
- `1 <= k <= nums.length`

Seen this question in a real interview before?   1/5

Yes   No

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🏷 Topics ⌃

Array   Greedy   Sorting

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💡 Hint 1 ⌃

Is the sum of two even numbers even or odd? How about two odd numbers? One odd number and one even number?

💡 Hint 2 ⌃

If there is an even number of odd numbers, the sum will be even and vice versa.

💡 Hint 3 ⌃

Create an integer array to store all the even numbers in nums and another array to store all the odd numbers in nums. Sort both arrays.

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