

5429. The k Strongest Values in an Array

[My Submissions \(/contest/weekly-contest-192/problems/the-k-strongest-values-in-an-array/submissions/\)](/contest/weekly-contest-192/problems/the-k-strongest-values-in-an-array/submissions/)

[Back to Contest \(/contest/weekly-contest-192/\)](/contest/weekly-contest-192/)

Given an array of integers `arr` and an integer `k`.

A value `arr[i]` is said to be stronger than a value `arr[j]` if $|arr[i] - m| > |arr[j] - m|$ where `m` is the **median** of the array. If $|arr[i] - m| == |arr[j] - m|$, then `arr[i]` is said to be stronger than `arr[j]` if `arr[i] > arr[j]`.

Return a *list of the strongest* `k` values in the array. return the answer in **any arbitrary order**.

Median is the middle value in an ordered integer list. More formally, if the length of the list is `n`, the median is the element in position $((n - 1) / 2)$ in the sorted list (**0-indexed**).

- For `arr = [6, -3, 7, 2, 11]`, `n = 5` and the median is obtained by sorting the array `arr = [-3, 2, 6, 7, 11]` and the median is `arr[m]` where $m = ((5 - 1) / 2) = 2$. The median is 6.
- For `arr = [-7, 22, 17, 3]`, `n = 4` and the median is obtained by sorting the array `arr = [-7, 3, 17, 22]` and the median is `arr[m]` where $m = ((4 - 1) / 2) = 1$. The median is 3.

Example 1:

Input: `arr = [1,2,3,4,5]`, `k = 2`

Output: `[5,1]`

Explanation: Median is 3, the elements of the array sorted by the strongest are `[5,1,4,2,3]`. Please note that although $|5 - 3| == |1 - 3|$ but 5 is stronger than 1 because $5 > 1$.

Example 2:

Input: `arr = [1,1,3,5,5]`, `k = 2`

Output: `[5,5]`

Explanation: Median is 3, the elements of the array sorted by the strongest are `[5,5,1,1,3]`.

Example 3:

Input: `arr = [6,7,11,7,6,8]`, `k = 5`

Output: `[11,8,6,6,7]`

Explanation: Median is 7, the elements of the array sorted by the strongest are `[11,8,6,6,7]`. Any permutation of `[11,8,6,6,7]` is **accepted**.

User Accepted:	4
User Tried:	6
Total Accepted:	4
Total Submissions:	6
Difficulty:	Medium

Example 4:**Input:** arr = [6,-3,7,2,11], k = 3**Output:** [-3,11,2]**Example 5:****Input:** arr = [-7,22,17,3], k = 2**Output:** [22,17]**Constraints:**

- $1 \leq \text{arr.length} \leq 10^5$
- $-10^5 \leq \text{arr}[i] \leq 10^5$
- $1 \leq k \leq \text{arr.length}$

JavaScript ▼



```
1 ▾ /**
2   * @param {number[]} arr
3   * @param {number} k
4   * @return {number[]}
5   */
6 ▾ var getStrongest = function(arr, k) {
7
8   };
```

☐ Custom Testcase

Use Example Testcases