Given an array of strings words and an integer k, return *the* k *most frequent strings*.

Return the answer **sorted** by **the frequency** from highest to lowest. Sort the words with the same frequency by their **lexicographical order**.

**Example 1:**

Input: words = ["i","love","leetcode","i","love","coding"], k = 2  
Output: ["i","love"]  
Explanation: "i" and "love" are the two most frequent words.  
Note that "i" comes before "love" due to a lower alphabetical order.

**Example 2:**

Input: words = ["the","day","is","sunny","the","the","the","sunny","is","is"], k = 4  
Output: ["the","is","sunny","day"]  
Explanation: "the", "is", "sunny" and "day" are the four most frequent words, with the number of occurrence being 4, 3, 2 and 1 respectively.

**Constraints:**

* 1 <= words.length <= 500
* 1 <= words[i].length <= 10
* words[i] consists of lowercase English letters.
* k is in the range [1, The number of **unique** words[i]]

**Follow-up:** Could you solve it in O(n log(k)) time and O(n) extra space?