Given a string s, return true *if a permutation of the string could form a*

***palindrome***

*and* false *otherwise*.

**Example 1:**

Input: s = "code"  
Output: false

**Example 2:**

Input: s = "aab"  
Output: true

**Example 3:**

Input: s = "carerac"  
Output: true

**Constraints:**

* 1 <= s.length <= 5000
* s consists of only lowercase English letters.