389 找不同

给定两个字符串 s 和 t，它们只包含小写字母。

字符串 t 由字符串 s 随机重排，然后在随机位置添加一个字母。

请找出在 t 中被添加的字母。

    输入：s = "abcd", t = "abcde"
    输出："e"
    输入：s = "", t = "y"
    输出："y"
    输入：s = "ae", t = "aea"
    输出："a"

- 排序 遍历

```java
class Solution {
    public char findTheDifference(String s, String t) {
        char[] sArray = s.toCharArray();
        char[] tArray = t.toCharArray();
        Arrays.sort(sArray);
        Arrays.sort(tArray);
        for (int i = 0; i < tArray.length; i++) {
            char a = i == tArray.length-1 ? ' ':sArray[i];
            char b =  tArray[i];
            if (a != b)
                return b;
        }
        return ' '; // 不可能
    }
}
```

- 计数法

```java
class Solution {
    public char findTheDifference(String s, String t) {
        int[] cnt = new int[26];
        for (int i = 0; i < s.length(); ++i) {
            char ch = s.charAt(i);
            cnt[ch - 'a']++;
        }
        for (int i = 0; i < t.length(); ++i) {
            char ch = t.charAt(i);
            cnt[ch - 'a']--;
            if (cnt[ch - 'a'] < 0) {
                return ch;
            }
        }
        return ' ';
    }
}
```

- 求和法

```java
class Solution {
    public char findTheDifference(String s, String t) {
        int as = 0, at = 0;
        for (int i = 0; i < s.length(); ++i) {
            as += s.charAt(i);
        }
        for (int i = 0; i < t.length(); ++i) {
            at += t.charAt(i);
        }
        return (char) (at - as);
    }
}
```

- 位运算 异或

```java
class Solution {
    public char findTheDifference(String s, String t) {
        int ret = 0;
        for (int i = 0; i < s.length(); ++i) {
            ret ^= s.charAt(i);
        }
        for (int i = 0; i < t.length(); ++i) {
            ret ^= t.charAt(i);
        }
        return (char) ret;
    }
}
```