Amir's Numbers

Amir has n positive integers a1, a2, ..., an.

His friend Shithij decided to joke and replaced all digits in Amir's numbers with letters. He used the lowercase letters of the English alphabet from 'a' to 'j' and replaced all digits 0 with one letter, all digits 1 with another letter and so on. For any two different digits, Shithij used distinct letters from 'a' to 'j'.

Your task is to restore Amir's numbers. The restored numbers should be positive integers without leading zeros. Since there can be multiple ways to do it, determine the minimum possible sum of all Amir's numbers after the restoration. It is guaranteed that before Shithij's joke all Amir's numbers did not have leading zeros.

Input Format

The first line contains a single integer n — the number of Amir's numbers.

Each of the following n lines contains non-empty string si consisting of lowercase English letters from 'a' to 'j' — Amir's numbers after Shithij's joke.

Constraints

1. $1 \le n \le 1\,000$
2. The length of each string does not exceed six characters.

Output Format

Determine the minimum sum of all Amir's numbers after the restoration. The restored numbers should be positive integers without leading zeros. It is guaranteed that the correct restore (without leading zeros) exists for all given tests.

Sample Input 0

```
3
aa
jj
aa
```

Sample Output 0

```
44
```

Explanation 0

As we need the smallest possible sum of the three numbers, the best way is to replace 'a' and 'j' with the smallest possible numbers. As 'a' appears more times, we replace it with 1 and 'j' with 2 (as we cannot have leading 0s).

11 + 22 + 11 = 44

Sample Input 1

```
3
ab
de
aj
```

Sample Output 1

```
47
```

Contest ends in 16 hours

Submissions: 0
Max Score: 200
Difficulty: Hard

Rate This Challenge:

More

Current Buffer (saved locally, editable)

Java 8

```
1 import java.io.*;
2 import java.util.*;
3
4 public class Solution {
5
6     public static void main(String[] args) {
```

```
7         /* Enter your code here. Read input from STDIN. Print output to STDOUT. Your class should be named Solution. */
8     }
9 }
```

Line: 1 Col: 1

Upload Code as File Test against custom input Run Code Submit Code