Problem A
Austere Sign

We are going to paint a sign but we can only afford stencils for k letters. Update the text of the sign to use only k unique letters without changing the lengths of any of the words, so that we can subtly fix the sign later.

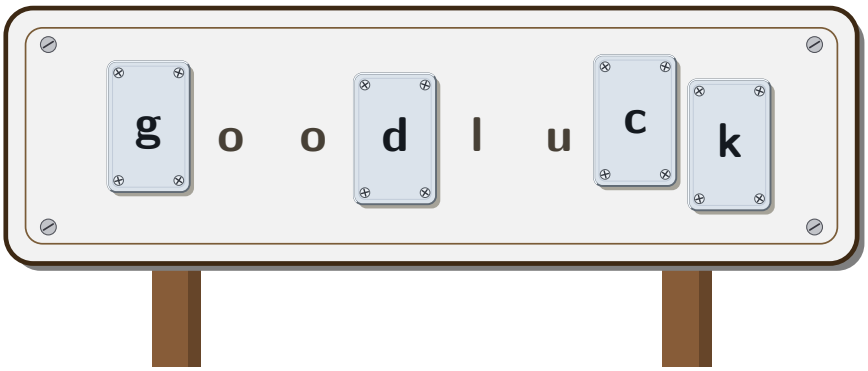


Figure A.1: Illustration of Sample Input 1. You can do this!

Input

- The first line of input contains the number of words, n ($1 \leq n \leq 1000$), and the number of letters, k ($1 \leq k \leq 26$).
- The second line of input contains n words. Each word consists of between 1 and 20 lowercase latin letters.

Output

Output a phrase using at most k distinct letters, substituting as few from the original text as possible. If there are multiple possible answers, output any.

Sample Input 1	Sample Output 1
2 3 good luck	lool lull

Sample Input 2	Sample Output 2
3 1 this is hard	ssss ss ssss

Sample Input 3	Sample Output 3
1 6 impossible	imbossibee

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