



Challenge: Legendary Resolver

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Difficulty: Hard

Submission Constraints:

- Time limit per test: **0,1 seconds**
- Memory limit per test: **Default (65 MB)**

Description

Arthur is on a quest for the 'Legendary Resolver Gun.' Along the way, he encounters puzzles he must solve to obtain it. He discovers paintings with strange keywords, recording them as he progresses. In the last painting, he uncovers a crucial number.

To decipher the puzzle Arthur has to :

- find the longest common subsequences that exist in the same order within all the keywords, which will aid him further in understanding the puzzle.
- From these subsequences, he needs to convert them into ASCII and then into base code using that number.

The key to solving the puzzle lies in identifying the highest base number of the longest common subsequences.

Inputs

- the first line contains the base: either 10, 2, or 256
- the second line contains m —the number of words
- Each of the next m lines contains the word m_i

Outputs

A number representing the highest base number of the longest common subsequences.

- If there is no common substring, the key will be 0.



- If the longest common subsequences consist of only one word, the key is the base of that word.
- If there is a collision (two or more words have the same base), the key should be the sum of the base multiplied by the number of words that have the collision.

Constraints

- Number of keywords =5
- $2 < \text{Len}(\text{keyword}) < 15$

Examples

Inputs	Outputs
256 5 prkjallednfaj prkajalle prkajrjawjf pliksmfmjhfggfa pmajbhfgwkhf	27504
8 4 outlow money gang out low	0