F - All Included　Editorial (/contests/abc419/tasks/abc419_f/editorial)

Time Limit: 2 sec / Memory Limit: 1024 MiB

Score : 550 points

Problem Statement

You are given N lowercase English strings $S_1, S_2, \ldots, S_N$, and an integer L.

Find the number, modulo 998244353, of length-L lowercase English strings that contain all of $S_1, S_2, \ldots, S_N$ as substrings.

▶ What is a substring?

Constraints

- $1 \le N \le 8$
- $1 \le L \le 100$
- N and L are integers.
- Each S_i is a string of length 1 and 10, inclusive, consisting of lowercase English letters.
- $S_i \ne S_j \ (i \ne j)$

Input

The input is given from Standard Input in the following format:

```
N  L
S₁
S₂
⋮
Sₙ
```

Output

Output the answer.

Sample Input 1

```
2 4
ab
c
```

Sample Output 1

```
153
```

Some of the strings that satisfy the condition are `abcz` and `cabc`. `acbd` does not contain `ab` as a substring, so it does not satisfy the condition.

Sample Input 2

```
2 6
abc
cde
```

Sample Output 2

```
54
```

Sample Input 3

```
5 50
bbfogggj
zkbach
eedirhyc
ffgd
oemmswj
```

Sample Output 3   Copy

```
689020583
```
Copy

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