Super Functional Strings

We define a function, F, on a string, P, as follows:

$$F(P) = \left(length(P)^{distinct(P)} \right) \% \ (10^9 + 7)$$

where:

- $length(P)$ denotes the number of characters in string P.
- $distinct(P)$ denotes the number of distinct characters in string P.

Consuela loves creating string challenges and she needs your help testing her newest one! Given a string, S, consisting of N lowercase letters, compute the summation of function F (provided above) over all possible *distinct substrings* of S. As the result is quite large, print it modulo $10^9 + 7$.

Input Format

The first line contains a single integer, T, denoting the number of test cases.
Each of the T subsequent lines contains a string, S.

Constraints

- $1 \leq T \leq 100$
- $1 \leq N \leq 10^5$
- The sum of N over all test cases does not exceed 10^5.

Scoring

- $N \leq 100$ for 20% of test data.
- $N \leq 1000$ for 40% of test data.
- $N \leq 10^5$ for 100% of test data.

Output Format

For each test case, print the answer modulo $10^9 + 7$.

Sample Input

```
3
aa
aba
abc
```

Sample Output

```
3
19
38
```

Explanation

Test 0:

"a" and "aa" are the only distinct substrings.

- $F("a") = (1^1) \ \% \ 1000000007 = 1$
- $F("aa") = (2^1) \ \% \ 1000000007 = 2$

$ans = (1 + 2) \ \% \ 1000000007 = 3$

Test 1:

"a", "b", "ab", "aba", and "ba" are the only distinct substrings.

- $F("a") = (1^1) \ \% \ 1000000007 = 1$
- $F("ab") = (2^2) \ \% \ 1000000007 = 4$
- $F("aba") = (3^2) \ \% \ 1000000007 = 9$
- $F("b") = (1^1) \ \% \ 1000000007 = 1$
- $F("ba") = (2^2) \ \% \ 1000000007 = 4$

$ans = (1 + 4 + 9 + 1 + 4) \ \% \ 1000000007 = 19$