



Problem F: Number of Unique Characters

Time limit: 2s; Memory limit: 512 MB

Define the $f(X)$ is the number of unique characters in the string (X). For example:
 $f(a) = 1$, $f(abde) = 4$, $f(abded) = 3$, $f(abba) = 0$.

Given a string S . Calculate the value of following expression:

$$G(S) = \sum_{i=1}^{|S|} \sum_{j=i}^{|S|} f(S[i..j])$$

with $S[i..j]$ is the consecutive substring from i to j of S (1-based indexing).

Input

- Each test contains multiple test cases. The first line contains the number of test cases T ($1 \leq T \leq 10$).
- Each test case contains only 1 line, string S ($1 \leq |S| \leq 10^5$) which only contains lowercase alphabetical characters ($a..z$).

Output

- For each test case, print the value of $G(S)$.

Sample

Input	Output
4	1
z	212
icpccentral	35
abcde	4
uuuu	