Contest time extended! There were a few configuration issues with the server. So we had to restart it. We appologize for the inconvenience and are extending the contest time for an hour.

B. Subsequence Count

Score: 1

CPU: 1s

Memory: 1024MB

You are given a string S and you have to count how many subsequence of this string does not have same character at adjacent positions. Subsequence of string S can be obtained from deleting zero or more characters from string S.

Example: let, S = "aba" then possible subsequences are "a", "ab", "aba", "aa", "b", "ba", "a" and ""(empty string). But among the subsequences all are valid except "aa".

Input

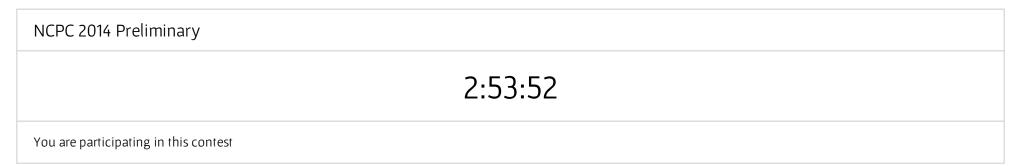
First line of the input contains $1 \le T \le 100$ number of test cases. Each of the following T lines contains a string which have positive and contains at most 1000 lowercase English letters.

Output

Output a single line containing case number and the number of subsequence. As the result can be large print it by modulo 100009.

Sample

| Input | Output |
|-------|-----------|
| 1 | Case 1: 7 |
| aba | |
| | |





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