Problem E
Rainbow Strings
Time limit: 1 second

Define a string to be a *rainbow string* if every letter in the string is distinct. An empty string is also considered a *rainbow string*.

Given a string of lowercase letters, compute the number of different subsequences which are *rainbow strings*. Two subsequences are different if an index is included in one subsequence but not the other, even if the resulting strings are identical.

In the first example, there are 8 subsequences. The only subsequences that aren't rainbow strings are `aa` and `aab`. The remaining 6 subsequences are rainbow strings.

Input

The input will consist of a single line with a single string consisting solely of lowercase letters. The length of the string is between 1 and 100 000 (inclusive).

Output

Write on a single line the number of rainbow sequences, modulo the prime 11 092 019.

Examples

Sample Input 1	Sample Output 1
aab	6

Sample Input 2	Sample Output 2
icpcprogrammingcontest	209952