

## ICPC Southeast USA Regional Contest

## Rainbow Strings

*Time limit: 1 second*

Define a *Rainbow String* as a string where every letter in the string is distinct. The empty string is a *Rainbow String*.

Given a string of lower-case letters, compute the number of different subsequences which are *Rainbow Strings*. Two subsequences are different if letter *at a specific position* is included in one subsequence but not the other. Thus, two different subsequences may result in the same string.

For example, consider the string `aab`. The following six subsequences (in bold and underlined) are the only *Rainbow Strings* in `aab`:

**a**`ab`   `aab   aab   aab   aab   <empty>`

The answer may be large, so output the answer modulo 11092019.

### Input

The single line of input contains a string  $s$  ( $1 \leq |s| \leq 10^5$ ) which consists only of lower-case letters.

### Output

Output a single integer, which is the number of subsequences of  $s$  which are *Rainbow Strings*.

Sample Input	Sample Output
aab	6
icpcprogrammingcontest	209952