# Problem 3 – Words

You are given a string containing Latin letters. Write a program that finds **the number of all words with no two consecutive equal characters that can be generated by reordering the given letters**. The generated words should contain all given letters. If the given word meets the requirements it should also be considered in the count.

### Input

* The input data should be read from the console.
* On the only input line there will be a single word containing all the letters that you should use for generating the words.
* The input data will always be valid and in the format described. There is no need to check it explicitly.

### Output

* The output data should be printed on the console.
* On the only output line write the number of words found.

### Constraints

* The number of the given letters will be between 1 and 10, inclusive.
* All given letters will be small Latin letters ('a' – 'z')
* Allowed working time for your program: 0.35 seconds. Allowed memory: 32 MB.

### Examples

|  |  |  |
| --- | --- | --- |
| **Input** | **Sample Output** | **Comments** |
| xy | 2 | Two possible words: "xy" and "yx" |
| xxxy | 0 | It is impossible to construct a word with these letters. |
| aahhhaa | 1 | The only possible word is "ahahaha". |
| nopqrstuvw | 3628800 | There are 3628800 possible words. |