C++ provides a nice alternative data type to manipulate strings, and the data type is conveniently called *string*. Some of its widely used features are the following:

- *Declaration:*
- string a = "abc";
- *Size:*
- int len = a.size();
- *Concatenate two strings:*
- string a = "abc";
- string b = "def";
- string c = a + b; // c = "abcdef".
- *Accessing element:*
- string s = "abc";
- char c0 = s[0]; // c0 = 'a'
- char c1 = s[1]; // c1 = 'b'
- char c2 = s[2]; // c2 = 'c'
-
- s[0] = 'z'; // s = "zbc"

P.S.: We will use *cin/cout* to read/write a string.

Input Format

You are given two strings, and , separated by a new line. Each string will consist of lower case Latin characters ('a'-'z').

Output Format

In the first line print two space-separated integers, representing the length
of and respectively.
In the second line print the string produced by concatenating and ().
In the third line print two strings separated by a space, and . and are the same as and , respectively, except that their first characters are swapped.

Sample Input

abcd

ef

Sample Output

4 2

abcdef

ebcd af