

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 i^{th} 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, ***a*** and ***b***, 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 ***a*** and ***b*** respectively.

In the second line print the string produced by concatenating ***a*** and ***b*** (***a + b***).

In the third line print two strings separated by a space, ***a'*** and ***b'***. ***a'*** and ***b'*** are the same as ***a*** and ***b***, respectively, except that their first characters are swapped.

Sample Input

```
abcd  
ef
```

Sample Output

```
4 2
abcdef
ebcd af
```

Explanation

- $a = "abcd"$
- $b = "ef"$
- $|a| = 4$
- $|b| = 2$
- $a + b = "abcdef"$
- $a' = "ebcd"$
- $b' = "af"$