Strings

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"*