

Input

You will be given two lines. The first line will contain the string *A*, the second line will contain the string *B*. Both strings consist of no more than 50000 lowercase Latin letters.

Output

Output the length of the longest common subsequence of strings *A* and *B*. Also print the longest common subsequence.

Example

Input	Output
<i>abababab</i> <i>bcbb</i>	3 <i>bbb</i>