

I. Search and Destt..Replace!

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Y'all have heard about search and destroy, right?
Well this question will require you to search and replace instead!!

Input

The first line contains original text, T.

The next line contains **N ($1 \leq N \leq 100$)**, amount of character that you need to search and replace.

The next N lines will contain two single characters, S and R, which S representing character that you need to find, and R representing character that you need to replace. Please note that S and R can be any characters except for space " ".

Output

Output the final string.

Sample Input	Sample Output
Y'all have heard about search and destroy, right? 5 ? ! a 4 i l o @ h \$	Y'4ll \$4ve \$e4rd 4b@ut se4rc\$ 4nd destr@y, rl\$!t!