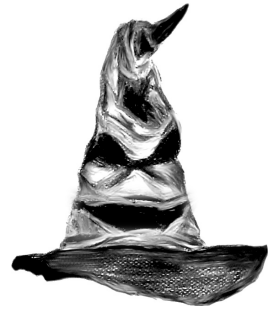# Problem D
Deranging Hat

In the wizarding world of security, there are two kinds of researcher: the idealist *arranging hat* and the mercenary *deranging hat*.

As we learned last year, an *arranging hat* carefully sorts out any list of letters given to it into ascending order. However, a *deranging hat* performs the exact opposite function: putting a sorted string of letters back into its original order.

The tool of choice for today's discerning headwear is a sorting network: a sequence of instructions represented by a list of pairs of numbers A_i and B_i, meaning that if at step i the A-th item in the string is not already smaller than the B-th item, they should be swapped immediately.

Given a specific word W, output a sorting network that the deranging hat can use to form the word from its original sorted letters.

Input

One line containing one string of lowercase Latin letters ('a'-'z'), S, containing at most 1000 characters.

Output

Output at most 10000 lines, each containing two integers A_i and B_i ($1 \le A_i, B_i \le |S|$) giving the i-th operation to perform.

Sample Input 1	Sample Output 1
bab	2 1

Sample Input 2	Sample Output 2
dude	4 3
	3 2

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