

String it out

Let **A** and **B** be two strings made up of alphabets such that $A = A_{[1-n]}$, $B = B_{[1-m]}$. We say **B** is a subsequence of **A** if there exists a sequence of indices $i_1 < i_2 < \dots < i_m$ of **A** such that $A[i_k] = B[k]$.

Given $B_{[1-m]}$, a string of characters from some alphabets, B^i is defined as string with the characters of **B** each repeating *i* times. For example, $(abbacc)^3 = aaabbbbbbaaaccccc$. Also, B^0 is the empty string.

Given strings **X**, **Y** made up of characters from 'a' - 'z' find the maximum value of **M** such that X^M is a subsequence of **Y**.

Input

- The first line of the input contains a positive integer $t \leq 20$, denoting the no. of test cases.
- The following $2t$ lines contain the value of **X** and **Y** for the cases.
- The description of the test cases follow one after the other.
 - Line $2k$ contains the value of **X** for case *k*; ($1 \leq k \leq t$)
 - Line $2k+1$ contains the value of **Y** for case *k*; ($1 \leq k \leq t$).
 - The no. of characters in **X**, **Y** will be ≤ 500010 .

Output

The output must contain *t* lines, each line corresponding to a test case. The value on the k^{th} line should be the value of **M** for the k^{th} pair of **X** and **Y**.

Example

Input:

```
3
abc
aabbcc
abc
bbccc
abcdef
abc
```

Output:

```
2
0
0
```