

Longest Common Suffix

Input file: **standard input**
Output file: **standard output**
Time limit: 1 second
Memory limit: 256 megabytes

A string t is a *suffix* of a string s if and only if t is obtainable by deleting several (possibly none) characters from the **front** of s .

For example, the string **cde** is a suffix of the string **abcde** since we can delete **a** then delete **b**. However, **bcd** is not a suffix of **abcde**.

You are given two strings a and b of lengths n and m respectively, find the length of the longest common suffix (that is the length of the longest string that is a suffix of both strings)

Input

The first line of input contains an integer t ($1 \leq t \leq 10^4$), the number of test cases.

The first line of each test case contains two integers n and m ($1 \leq n, m \leq 10^5$), the lengths of the two strings a and b respectively.

The second line of each test case contains the string a of n lowercase Latin letters.

The third line of each test case contains the string b of m lowercase Latin letters.

The sum of $n + m$ over all test cases doesn't exceed 10^6 .

Output

For each test case, output one line containing one integer, the length of the longest common suffix of a and b .

Example

standard input	standard output
3	2
3 4	4
beh	0
efeh	
5 4	
aaaaa	
aaaa	
5 5	
fjekl	
mesth	

Note

In the first test case, the longest common suffix is **eh**.

In the second test case, the longest common suffix is **aaaa**.

In the third test case, there is no common suffix, so the answer is 0.