

Longest Common Subsequence 6

A subsequence is a sequence obtained from another sequence by deleting some (none) of the elements of the original sequence and keeping the rest of the elements in the same order. Note that unlike substrings, subsequences are not required to occupy consecutive positions in the original sequence.

Given two sequences of letters from the english alphabet, find the length of the longest common subsequence.

Input Format

The first line will contain t , the number of test cases. For each test case, there will be **3** lines: the first line has space separated integers m and n , the lengths of the two strings. The next two lines will contain the two strings of lengths m and n respectively.

Constraints

- $1 \leq t \leq 10^7$
- $1 \leq m, n \leq 10^4$

Output Format

For every test case, print on a separate line the length of the longest common subsequence of the two strings corresponding to the test case.

Sample Input 0

```
1
7 7
XMJYAUZ
MZJAWXU
```

Sample Output 0

```
4
```

Explanation 0

The longest common subsequence is MJAU