Question 1

Max. score 30.00

Subsequence

Given an array, A consisting of N distinct integers, and another array B consisting of M integers (not necessarily distinct). You need to find the **minimum** number of elements to be added in B so that A becomes sub-sequence of B, we can add elements at any position in array B.

A subsequence is a sequence that can be derived by deleting some or no elements from the sequence without changing the order of the remaining elements.

We define array A elements are distinct if $A_i \neq A_j, i \neq j, 1 \leq i, j \leq N$(Consider 1- based indexing).

Input Format:

First-line will contain the number of test cases T.

For each test case:

- First-line will contain two space-separated integers N and M.
- The next line will contain N space-separated distinct integers, denoting the array elements(A_i) of array A.
- The next line will contain M space-separated integers, denoting the array elements(B_i) of array B.

Output Format:

Output Format:

Output the minimum number of elements to be added in array B so that array A becomes sub-sequence of B. For each test case output the answer in a new line.

Constraints:

$1 \leq T \leq 10$
$1 \leq N, M \leq 10^5$
$1 \leq A_i, B_i \leq 10^9 \ (1 \leq i \leq N)$

Sample input 1 Copy

```
1
5 6
1 2 3 4 5
2 5 6 4 9 12
```

Sample output 1 Copy

```
3
```

Explanation

We need to add minimum of 3 elements to array B, so that array A will become subsequence of array B.

We need to add element 1 in start of B and element 3, 4 between 2 and 5 in array B. New array B will be [1 2 3 4 5 6 4 9 12] and

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End test

The following test cases are the actual test cases of this question that may be used to evaluate your submission.

Sample input 2

Copy

```
2
9 19
1 2 4 6 15 18 19 24 29
12 19 19 5 26 2 23 9 23 14 29 7 28 24 28 29 21 16
16
16 10
1 2 3 4 8 9 11 12 14 17 19 21 24 26 28 29
11 18 8 9 9 15 24 26 16 18
```

Sample output 2

Copy

```
6
12
```

Sample input 3

Copy

```
3
15 18
2 4 5 6 7 8 9 12 14 15 19 20 21 26 30
2 6 6 23 9 2 14 27 17 20 24 23 16 19 16 17 11 29
18 17
1 3 4 8 9 14 16 18 19 20 22 23 24 25 26 28 29 30
2 25 25 9 11 5 7 18 13 6 2 24 16 17 27 9 12
16 8
3 5 6 7 9 11 13 14 15 16 17 19 23 24 26 30
```

Sample output 3

Copy

```
10
15
14
```

Sample input 4

Copy

```
3
15 15
1 4 5 8 9 10 11 14 15 16 18 23 25 29 30
5 19 23 30 27 1 18 19 21 24 4 11 8 11 10
13 8
1 4 5 6 9 14 15 18 19 20 25 27 30
2 30 30 4 7 11 6 1
20 12
1 2 4 6 7 9 10 11 12 13 15 18 19 20 21 22 23 24
25 27
```

Sample output 4

Copy

```
11
11
16
```

Sample input 5

Copy

```
1
2 20
2 5
5 3 6 30 12 17 20 23 25 12 14 28 29 9 25 18 14 20
27 4
```

Sample output 5

Copy

```
1
```

Sample input 6

Copy

Sample output 6

Copy