✏ Practice Arena

Practice problems aimed to improve your coding skills.

📂 PRACTICE-02_SCAN-PRINT
📂 PRACTICE-03_TYPES
📂 LAB-PRAC-02_SCAN-PRINT
📂 LAB-PRAC-01
📂 PRACTICE-04_COND
📂 BONUS-PRAC-02
📂 LAB-PRAC-03_TYPES
📂 PRACTICE-05_COND-LOOPS
📂 LAB-PRAC-04_COND
📂 LAB-PRAC-05_CONDLOOPS
📂 PRACTICE-07_LOOPS-ARR
📂 LAB-PRAC-06_LOOPS
📂 LAB-PRAC-07_LOOPS-ARR
📂 LABEXAM-PRAC-01_MIDSEM
📂 PRACTICE-09_PTR-MAT
📂 LAB-PRAC-08_ARR-STR
📂 PRACTICE-10_MAT-FUN
📂 LAB-PRAC-09_PTR-MAT
📂 LAB-PRAC-10_MAT-FUN
📂 PRACTICE-11_FUN-PTR
📂 LAB-PRAC-11_FUN-PTR
  ❓ Name the Clones
  ❓ The Race of the Clones
  ❓ Partial Palindrome
  ❓ Growth Curve
  ❓ The Family Tree of Mr C
  ❓ Timely Tasks
  ❓ Plenty of Palindromes
  ❓ Count and Say Sequence
  ❓ Orbiting Indices
  ❓ Zig-zag Numbers
  ❓ Parent Palindrome
  ❓ Leaderboard
📂 LAB-PRAC-12_FUN-STRUC
📂 LABEXAM-PRAC-02_ENDSEM
📂 LAB-PRAC-13_STRUC-NUM
📂 LAB-PRAC-14_SORT-MISC

Leaderboard

LAB-PRAC-11_FUN-PTR

Leaderboard [20 marks]

Problem Statement

Mr C is participating in a contest where one can play any number of times. Every time Mr C plays, he gets a non-negative score. Based on his score and scores that other players have received, he is assigned a rank. However, the rank is calculated in a very careful manner. The highest score is awarded rank 1, the next highest score is awarded rank 2, and so on. However, if two scores are the same, then they are awarded the same rank.

Consider the following example. Suppose the scores of the players are [100 100 50 40 40 20 10]. Then the first two 100 scores both get rank 1. However, the score 50 gets rank 2. The next two 40 scores get rank 3. The score 20 gets rank 4 and the score 10 gets rank 5.

In the first line of the input you will be given a strictly positive integer n, separated by a space. n tells you how many player scores are already there. In the next line, there will be n non-negative player scores give to you in non-increasing order (i.e. from left to right, the scores will stay the same or go down, never go up), two scores separated by a space. Store these scores in an array.

In the next line you will be given another strictly positive integer m, which tells you the number of attempts Mr C makes in the game. In the next line, you will be given m non-negative scores that Mr C got in each of his attempts, two scores separated by a space. Read each score, store it in the correct position in the array and find the rank of Mr C's score and print it on a separate line of the output.

Caution

1. You may want to create an array of size m+n since you will have to store those many elements eventually (n original scores of other players and m scores of Mr C).
2. Mr C's rank for his second score should be calculated after his first score has been inserted into the array at the correct location. Mr C's rank for his third score should be calculated after his first two scores have been inserted into the array at the correct location.
3. Be careful about extra/missing lines and extra/missing spaces in your output.

EXAMPLE:
INPUT
7
100 100 50 40 40 20 10
4
5 25 50 120

OUTPUT:
6
4
2
1

Explanation

1. Initially the score list is [100 100 50 40 40 20 10].
2. Inserting 5 into the list gives us [100 100 50 40 40 40 20 10 5] and its rank is 6
3. Inserting 25 into the list gives us [100 100 50 40 40 40 25 20 10 5] and its rank is 4
4. Inserting 50 into the list gives us [100 100 50 50 40 40 40 25 20 10 5] and its rank is 2
5. Inserting 120 into the list gives us [120 100 100 50 50 40 40 40 25 20 10 5] and its rank is 1

Grading Scheme:
Total marks: **[20 Points]**

There will be partial grading in this question. There are several lines in your output. Printing each line correctly, in the correct order, carries equal weightage. Each visible test case is worth 2 points and each hidden test case is worth 4 points. There are 2 visible and 4 hidden test cases.

Please remember, however, that when you press Submit/Evaluate, you will get a green bar only if all parts of your answer are correct. Thus, if your answer is only partly correct, Prutor will say that you have not passed that test case completely, but when we do autograding afterwards, you will get partial marks.

🍴 Start Solving! (/editor/practice/6226)