

Q1. Two friends decided to play a very exciting online card game. At the beginning of this game, each player gets a deck of cards, in which each card has some strength assigned. After that, each player picks random card from his deck and they compare the strengths of the picked cards. The player who picked card with larger strength wins. There is no winner in case both players picked cards with equal strength.

First friend got a deck with  $n$  cards. The  $i$ -th his card has strength. Second friend got a deck with  $m$  cards. The  $i$ -th his card has strength.

First friend wants to win very much. So he decided to improve his cards. He can increase by 1 the strength of any card for 1 dollar. Any card can be improved as many times as he wants. The second friend can't improve his cards because he doesn't know about this possibility.

What is the minimum amount of money which the first player needs to guarantee a victory for himself?

**[12 M]**

*Input format:*

*The first line of the input contains single integer  $n$ , the number of first friend's cards.*

*The second line of the input contains  $n$  space separated integers  $A[i]$ - the strength of the  $i$ -th first friend's card.*

*Second friend's cards are given in the next two lines in the same format.*

*Output format:*

*Print a single integer - the minimum amount of money which the first friend needs to guarantee a victory for himself.*

*Example:*

*I/P:*

3

1 3 10

2

3 4

*O/P:*

6

Q2. Modify your Quick Sort implementation so that it sorts the array in descending order instead of ascending order. Test your program with different input arrays and display the results.

**[8 M]**