Merge & Sort

There are two integer arrays A1 and A2 of sizes N1 and N2 sorted in an ascending order. These arrays should be merged into a single sorted array R in ascending order.

Write a program to illustrate the above scenario by reading the input from STDIN (standard input) and write the output to STDOUT (standard output).

Constraints:

N1, N2 <= 450

The size of R should be N1+N2

Input Format:

The first line of input contains N1, the size of array A1.

The second line of input contains elements (in ascending order) of A1 separated by a single whitespace.

The third line of input contains N2 the size of array A2.

The fourth line of input contains elements (in ascending order) of A2 separated by a single whitespace.

Output Format:

Single line of output contains R, each element is separated by a single white space.

Sample Input 1:

3

2 4 6

2

1 5

Sample Output 1:

1 2 4 5 6

Explanation 1:

From the sample input1 given arrays A1 of size 3 and A2 of size 2.

Elements of A1 are 2, 4 and 6.

Elements of A2 are 1, 5.

These two arrays A1 and A2 should be merged into a single sorted array R in ascending order i.e. 1, 2, 4, 5, 6 which is printed as output.

Sample Input 2:

4

-9 8 77 88

5

-100 100 101 101 102

Sample Output 2:

-9 8 77 88 100 100 101 101 102

Explanation 2:

After Sorting the two arrays A1 and A2, the array R becomes -9, 8, 77, 88, 100, 100, 101, 101, 102 which is printed output.