# Rajalakshmi Engineering College

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Branch: REC

Department: I AI & ML FA

Batch: 2028

Degree: B.E - AI & ML



# NeoColab\_REC\_CS23231\_DATA STRUCTURES

REC\_DS using C\_Week 6\_COD\_Question 1

Attempt : 1 Total Mark : 10 Marks Obtained : 0

Section 1: Coding

#### 1. Problem Statement

John and Mary are collaborating on a project that involves data analysis. They each have a set of age data, one sorted in ascending order and the other in descending order. However, their analysis requires the data to be in ascending order.

Write a program to help them merge the two sets of age data into a single sorted array in ascending order using merge sort.

### **Input Format**

The first line of input consists of an integer N, representing the number of age values in each dataset.

The second line consists of N space-separated integers, representing the ages of participants in John's dataset (in ascending order).

The third line consists of N space-separated integers, representing the ages of participants in Mary's dataset (in descending order).

Output Format participants in Mary's dataset (in descending order).

The output prints a single line containing space-separated integers, which represents the merged dataset of ages sorted in ascending order.

Refer to the sample output for formatting specifications.

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#### Sample Test Case

Input: 5 13579 108642

Output: 1 2 3 4 5 6 7 8 9 10

Answer

24,150,105

Status: Skipped Marks: 0/10

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# NeoColab\_REC\_CS23231\_DATA STRUCTURES

REC\_DS using C\_Week 6\_COD\_Question 2

Attempt : 1 Total Mark : 10 Marks Obtained : 0

Section 1: Coding

#### 1. Problem Statement

Nandhini asked her students to arrange a set of numbers in ascending order. She asked the students to arrange the elements using insertion sort, which involves taking each element and placing it in its appropriate position within the sorted portion of the array.

Assist them in the task.

### **Input Format**

The first line of input consists of the value of n, representing the number of array elements.

The second line consists of n elements, separated by a space.

## Output Format

The output prints the sorted array, separated by a space.

24,150

247501705

Refer to the sample output for formatting specifications.

Sample Test Case

Input: 5

67 28 92 37 59

Output: 28 37 59 67 92

**Answer** 

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Status : Skipped

Marks : 0/10

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## NeoColab\_REC\_CS23231\_DATA STRUCTURES

REC\_DS using C\_Week 6\_COD\_Question 3

Attempt : 1 Total Mark : 10 Marks Obtained : 0

Section 1: Coding

#### 1. Problem Statement

You are the lead developer of a text-processing application that assists writers in organizing their thoughts. One crucial feature is a character-sorting service that helps users highlight the most critical elements of their text.

To achieve this, you decide to enhance the service to sort characters in descending order using the Quick-Sort algorithm. Implement the algorithm to efficiently rearrange the characters, ensuring that it is sorted in descending order.

### Input Format

The first line of the input consists of a positive integer value N, representing the number of characters to be sorted.

The second line of input consists of N space-separated lowercase alphabetical characters.

Output Format characters.

The output displays the set of alphabetical characters, sorted in descending order.

Refer to the sample output for the formatting specifications. 241501105

### Sample Test Case

Input: 5 adgjk

Output: k j g d a

**Answer** 

24,150,105

Status: Skipped Marks: 0/10

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