

SR NO	Question 1	Question 2 (Optional)
1	Write a program to store and display information about 5 cars(name, year of launch and price) using an array of structures.	
2	Define a structure named Book with members title (string), author (string), and pages (integer).	
3	<p>Write a recursive function that checks if a string is a palindrome. The function should:</p> <p>Accept the string as input.</p> <p>Compare the first and last characters of the string, then recursively check the substring without the first and last characters.</p> <p>Return true if the string is a palindrome, and false otherwise.</p> <p>Test the function with multiple strings (both palindromes and non-palindromes).</p>	<p>Write a program that defines a structure Book with the following members:</p> <pre>char title[100] char author[100] float price</pre> <p>Initialize an array of Book structures with sample data.</p> <p>Write a function to display the details of all books.</p> <p>Write a function to search for a book by title and return the book's details. If the book is not found, return a message.</p> <p>Demonstrate the program with 3 books.</p>
4	Write a function to compute the distance between two points and use it to develop another function that will compute the area of the triangle whose vertices are A(x1, y1), B(x2, y2), and C(x3, y3). Use these functions to develop a function which returns a value 1 if the point (x, y) lies inside the triangle ABC, otherwise a value 0.	
5	Write a program to store and display information about multiple books (title, author, and price) using an array of structures	Write a program to manage a simple ATM system using a union for different transaction types like balance inquiry and withdrawal.
6	Write a C Program to Add Two Complex Numbers by Passing Structure to a Function.	
7	Write a program in C to define a structure named Employee with fields for ID, name, and salary. Accept details of 5 employees from the user and sort them by name in alphabetical order using a function. Display the sorted list.	
8	Write a C program that defines a function to swap two arrays of the same size without using any extra memory or a third array. The function should swap the elements of both arrays in place. After calling the function, print the modified arrays.	<p>Define a structure Book with fields title, author, and price. Write functions to:</p> <p>Add a new book.</p> <p>Display book details.</p> <p>Calculate the total price of all books.</p> <p>Implement these functions and demonstrate their usage in a menu-driven program.</p>
9	Write a program that converts a string like "124" to an integer 124.	<p>Write a program that replaces two or more consecutive blanks in a string by a single blank. For example, if the input is</p> <p>Grim return to the planet of apes!!</p> <p>the output should be</p> <p>Grim return to the planet of apes!!</p>
10	Write a recursive function to find all prime numbers up to a given number.	Create a program to manage bank account details (account number, name, balance, etc.)
11	Write a program in C to define a structure named Employee with fields for id, name, and salary. Accept details of 5 employees from the user and sort them by salary in ascending order using a function. Display the sorted list.	
12	Write a program using a function to calculate the hypotenuse of a right-angled triangle.	

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13	<p>Write a program in C to separate odd and even integers into separate arrays using Function.</p> <p>Test Data :</p> <p>Input the number of elements to be stored in the array :5</p> <p>Input 5 elements in the array :</p> <p>element - 0 : 25</p> <p>element - 1 : 47</p> <p>element - 2 : 42</p> <p>element - 3 : 56</p> <p>element - 4 : 32</p> <p>Expected Output :</p> <p>The Even elements are :</p> <p>42 56 32</p> <p>The Odd elements are :</p> <p>25 47</p>	<p>Design a structure named "Car" to store details like car ID, model, and rental rate per day. Write a C program to input data for three cars, calculate the total rental cost for a specified number of days, and display the results.</p>
14	Write a program in C to find the sum of the series $1!/1+2!/2+3!/3+4!/4+5!/5$ using the function.	
15	<p>Design and implement a C program to manage student information using structures."</p> <p>Requirements:</p> <p>Define a structure named Student to represent a student. The structure should include the following members:</p> <p>roll_no: An integer to store the student's roll number.</p> <p>name: A character array to store the student's name.</p> <p>marks: An array of integers to store the marks obtained in five subjects (e.g., Math, Science, English, History, Geography).</p>	
16	There is a structure called employee that holds information like employee code, name and date of joining. Write a program to create an array of structures and enter some data into it. Then ask the user to enter current date. Display the names of those employees whose tenure is greater than equal to 3 years.	
17	Write a C program to find a factorial of a number using user-defined function	Write a C program for storing information of a student like (student ID, students name, students mark) using structure
18	Design a program to store and display a Date using a structure with fields for day, month, and year. In the same program, use a union to store either a timestamp (as an integer) or a formatted_date (as a string). Provide functions to input and display both formats of the date.	Write a program to define a structure Product with fields product_id, product_name, and price. Create an array of 5 Product structures, accept data for each product, and write a function to calculate and display the total price of all products.
19	<p>Define a union Shape containing structures for Circle, Rectangle, and Triangle with relevant parameters.</p> <p>Write a function to calculate and return the area based on user selection.</p>	
20	<p>Design a structure named "Car" to store details like car ID, model, and rental rate per day.</p> <p>Write a C program to input data for three cars, calculate the total rental cost for a specified number of days, and display the results.</p>	

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21	Write a C program that: Accept number of rows (R) and columns (C) of matrices. Accepts two RxC matrices from the user. Performs matrix addition. Displays the resultant matrices after operation.	
22	Create a structure Patient with details: name, age, disease, admission_date, and bill_amount. Implement functions to: Accept and display patient records. List all patients suffering from a specific disease. Calculate and print the total revenue generated by all patients.	Define a structure Complex with fields real and imaginary. Write functions to: Add two complex numbers. Multiply two complex numbers. Find the magnitude of a complex number.
23	Write a program in C to compare two strings without using string library functions.	
24	Write a C program to input a 3x3 matrix from the user and compute the sum of its diagonal elements. Display the entered matrix and the calculated sum.	
25	Define a union ExamScore containing fields for three different types of exams: marks_100 (out of 100), grade (A/B/C/D), and percentage. Implement a program that takes student input and selects the appropriate format for storing scores based on the type of exam.	
26	Write a program for a simple library management system using a structure . The structure should store:  Book Title (string). Book ID (integer). Book Details (using a union to handle two types of books): Regular Book (with price and number of pages). E-Book (with file size and format). The program should allow the user to select a book type and input its details. Then, display the details based on the selected book type.	
27	Write a C program to find the LCM (Least Common Multiple) of two numbers using a user-defined function.	Write a C program to find the GCD (Greatest Common Divisor) of two numbers using a recursive function.
28	Write a C program that takes the temperature in Celsius from the user and converts it to Fahrenheit using the formula: $F = (9/5) * C + 32$ Return the Fahrenheit temperature from a function and display it	