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| 1. Write a program to reverse a given string in place. The program should include a function that takes a string as input and modifies it to be in reverse order. |
| 2. Write a program to check if a given string is a palindrome. The program should include a function that returns '1' if the string is a palindrome and '0' otherwise. |
| 3. Write a program to print the first N numbers of the Fibonacci series using iteration. The program should prompt the user for the value of N and then display the series. |
| 4. Write a program to multiply two matrices. The program should include functions to input matrices and perform multiplication, then print the resulting matrix. |
| 5. Write a program to find the largest element in an array. The program should include a function that takes an array and its size as arguments and returns the largest element. |
| 6. Write a program to check if a given number is a prime number. The program should include a function that returns ‘1’ if the number is prime and ‘0’ otherwise. |
| 7. Write a program to calculate the factorial of a number using recursion. |
| 8. Write a program to count the number of vowels in a given string. |
| 9. Write a program to remove duplicate elements from an array. The program should include a function that takes an array and its size, and then modifies the array to remove duplicates. |
| 10. Write a program to concatenate two strings without using library functions. The program should include a function that takes two strings as input and returns their concatenated result. |
| 11. Write a program to compute the Greatest Common Divisor (GCD) of two numbers . |
| 12. Write a program to count the number of words in a given string. The program should include a function that takes a string and returns the count of words. |
| 13.Write a program to find common elements between two arrays. The program should include a function that takes two arrays and their sizes, and returns an array of common elements. |
| 14.Write a program to check if a given number is an Armstrong number. The program should include a function that returns ‘1’ if the number is an Armstrong number and ‘0’ otherwise. |

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| 15.Write a program to calculate the mean, median, and mode of an array. The program should include functions to compute each of these statistics. |
| 16.Write a program to find the second largest element in an array. The program should include a function that returns the second largest element. |
| 17.Write a program to generate Pascal's Triangle up to N rows. The program should include a function that prints the triangle. |
| 18.Define a structure to store employee information including employee ID, name, and salary. Write a program to create an array of structures, input employee data, and compute the average salary of all employees. |
| 19.Write a program that demonstrates pointer arithmetic. Define an array of integers and use pointers to calculate the sum of all elements in the array. Additionally, use pointer arithmetic to print the elements of the array in reverse order. |
| 20.Write a C program to find whether a given year is a leap year or not. |
| 21.Write a C program to check whether a triangle is Equilateral, Isosceles or Scalene. |
| 22.Write a program in C to calculate and print the electricity bill of a given customer. The customer ID, name, and unit consumed by the user should be captured from the keyboard to display the total amount to be paid to the customer.    The charge are as follow :    Unit Charge/unit upto 199 @1.20  200 and above but less than 400 @1.50  400 and above but less than 600 @1.80  600 and above @2.00 |

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| If bill exceeds Rs. 400 then a surcharge of 15% will be charged and the minimum bill should be of Rs. 100/-    Test Data :  1001  James  800  Expected Output :  Customer IDNO :1001 Customer Name :James unit Consumed :800  Amount Charges @Rs. 2.00 per unit : 1600.00  Surchage Amount : 240.00  Net Amount Paid By the Customer : 1840.00 |
| 23.Write a C program to find the position of a target value within an array. |
| 24.Write a C program that prompts the user to enter a series of numbers until they input a negative number. Calculate and print the sum of all entered numbers using a do-while loop. |
| 25.Write a program in C to print all the alphabets using a pointer. |
| 26.Write a program in C to make such a pattern like a right angle triangle with the number increased by 1.    The pattern like :    1  2 3  4 5 6  7 8 9 10 |
| 27. Write a C program to make such a pattern as a pyramid with an asterisk.    \*   * \* * \* \* * \* \* \* |

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| 28. Write a program in C to print Floyd's Triangle.    1  01  101  0101  10101 |
| 29. Write a C program to find the 'Perfect' numbers within a given number of ranges.  Test Data :  Input the starting range or number : 1 Input the ending range of number : 50 Expected Output :  The Perfect numbers within the given range : 6 28 |
| 30. Write a C program to find the Armstrong number for a given range of number. Test Data :  Input starting number of range: 1  Input ending number of range : 1000 |
| 31. Write a program in C to count the frequency of each element of an array. |
| 32. Write a program in C to separate odd and even integers into separate arrays.  Test Data :  Input the number of elements to be stored in the array :5 Input 5 elements in the array :  element - 0 : 25 element - 1 : 47 element - 2 : 42 element - 3 : 56 element - 4 : 32  Expected Output :  The Even elements are :  42 56 32  The Odd elements are :  25 47 |

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| 33. Write a program in C to sort elements of an array in ascending order. |
| 34. Write a program in C to delete an element at a desired position from an array. |
| 35. Write a program in C to accept a matrix and determine whether it is a sparse matrix. |
| 36. Create a structure named Complex to represent a complex number with real and imaginary parts. Write a C program to add and multiply two complex numbers. |
| 37.Write a C program to calculate x raised to the power n |
| 38. Write a program in C to print the Fibonacci Series using recursion. |
| 39. Write a program in C to find the first capital letter in a string using recursion.    Test Data :  Input a string to including one or more capital letters : test String    Expected Output :  The first capital letter appears in the string test String is S. |
| 40. Write a program to generate prime numbers between 1 to 100. |