Serially Topic Wise C Program Names

1 **Basic C Programs (Preliminaries, I/O, Expressions)**

- Write a C program to print your name (e.g., "Akash Barua").

- Write a C program to print "Hello World".

- Write a C program to add, subtract, multiply, and divide two numbers.

- Write a C program to find the ASCII value of a character.

- Write a C program to swap two numbers using a temporary variable.

- Write a C program to swap two numbers without using a temporary variable.

- Write a C program to calculate simple interest and compound interest.

- Write a C program to find the area and circumference of a circle.

- Write a C program to find the area of a rectangle and triangle.

- Write a C program to convert Celsius to Fahrenheit and vice versa.

- Write a C program to evaluate arithmetic expressions.

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2 **Conditional Statements (Decision Making)**

- Write a C program to check whether a number is even or odd.

- Write a C program to check whether a number is positive, negative, or zero.

- Write a C program to find the largest among two numbers.

- Write a C program to find the largest among three numbers.

- Write a C program to check whether a year is a leap year or not.

- Write a C program to calculate grade from marks.

- Write a C program to check whether a character is a vowel or consonant.

- Write a C program to check whether a character is uppercase, lowercase, digit, or special symbol.

- Write a C program to use switch-case for a simple calculator.

- Write a C program to display the day of the week using switch-case.

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3 Loops and Nested Loops

- Write a C program to print numbers from 1 to 100.

- Write a C program to print even numbers between 1 to 100.

- Write a C program to print odd numbers between 1 to 100.

- Write a C program to find the sum of first N natural numbers.

- Write a C program to find the factorial of a number.

- Write a C program to generate multiplication table of any number.

- Write a C program to print Fibonacci series.

- Write a C program to reverse a number.

- Write a C program to check whether a number is prime or not.

- Write a C program to find the sum of digits of a number.

- Write a C program to check whether a number is palindrome or not.

- Write a C program to print patterns (e.g., stars, numbers, pyramids).

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4 Arrays and Strings

- Write a C program to find the largest element in an array.

- Write a C program to find the smallest element in an array.

- Write a C program to calculate the sum of all elements of an array.

- Write a C program to sort elements of an array in ascending order.

- Write a C program to sort elements of an array in descending order.

- Write a C program to search an element in an array (linear search).

- Write a C program to search an element in an array (binary search).

- Write a C program to add two matrices.

- Write a C program to multiply two matrices.

- Write a C program to find the transpose of a matrix.

- Write a C program to reverse an array.

- Write a C program to count vowels and consonants in a string.

- Write a C program to find the length of a string without using library functions.

- Write a C program to copy one string to another without using library functions.

- Write a C program to check whether a string is palindrome or not.

- Write a C program to sort strings in dictionary order.

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5 Functions and Recursion

- Write a C program to find factorial using function.

- Write a C program to generate Fibonacci series using function.

- Write a C program to check prime number using function.

- Write a C program to find GCD and LCM using function.

- Write a C program to swap two numbers using function.

- Write a C program to check palindrome using function.

- Write a C program to calculate power using recursion.

- Write a C program to find factorial using recursion.

- Write a C program to generate Fibonacci series using recursion.

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6 Structures and Nested Structures

- Write a C program to store and display information of a student (name, roll, marks).

- Write a C program to store information of multiple students using array of structures.

- Write a C program to add two distances (in feet and inches) using structures.

- Write a C program to store employee details (name, salary, department).

- Write a C program to nest one structure inside another.

- Write a C program to pass structure to a function.

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7 File Handling (Sequential and Random I/O)

- Write a C program to create and write into a file.

- Write a C program to read data from a file.

- Write a C program to count characters, words, and lines in a file.

- Write a C program to copy contents of one file to another.

- Write a C program to merge two files.

- Write a C program to append data into a file.

- Write a C program to store student records in a file.

- Write a C program to update and delete records from a file.

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8 Pointers

- Write a C program to demonstrate pointer and address of a variable.

- Write a C program to swap two numbers using pointers.

- Write a C program to add two numbers using pointers.

- Write a C program to find length of string using pointer.

- Write a C program to copy string using pointer.

- Write a C program to access array elements using pointer.

- Write a C program to pass pointer to a function.

- Write a C program to return pointer from a function.

- Write a C program to store structure variables using pointer.

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9 Bitwise Operations

- Write a C program to perform bitwise AND, OR, XOR, and NOT.

- Write a C program to check whether a number is even or odd using bitwise operator.

- Write a C program to count the number of 1 bits in an integer.

- Write a C program to swap two numbers using bitwise XOR.

- Write a C program to multiply a number by 2 using bitwise shift.

- Write a C program to divide a number by 2 using bitwise shift.

🔟 Advanced Programs

- Write a C program to use dynamic memory allocation (malloc, calloc, realloc, free).

- Write a C program to implement bubble sort.

- Write a C program to implement insertion sort.

- Write a C program to implement selection sort.

- Write a C program to implement quick sort.

- Write a C program to implement merge sort.

- Write a C program to implement binary search using recursion.

- Write a C program to demonstrate pointer to pointer.

- Write a C program to demonstrate function pointer.

- Write a C program to demonstrate bit fields in structures.