

# MCA Lab Work – Department of Computer Science, IUST

Course Title: Programming Concepts in C/C++  
Semester: 1<sup>st</sup>  
Course Instructor: Dr. Zahid Hussain Wani

Course Code: MCA-JTI-C  
Paper Type: Core

Program No.	Program Content
Program 1:	WAP in C/C++ to perform Addition, Subtraction, Multiplication and Division of any two numbers.
Program 2:	WAP in C/C++ to find area of a circle.
Program 3:	WAP in C/C++ to find greatest of two numbers using conditional operator.
Program 4:	WAP in C/C++ to find greatest of three numbers using conditional operator.
Program 5:	WAP in C/C++ to swap two numbers.
Program 6:	WAP in C/C++ to whether a given year is leap year or not.
Program 7:	WAP in C/C++ to check whether a number is even or odd.
Program 8:	WAP in C/C++ to show the use of pre/post increment operators.
Program 9:	WAP in C/C++ to find greatest of two numbers using if-else statement.
Program 10:	WAP in C/C++ to find greatest of three numbers using if-else statement.
Program 11:	WAP in C/C++ to generate different types of patterns.
Program 12:	WAP in C/C++ to reverse of a number.
Program 13:	WAP in C/C++ to find factorial of a number.
Program 14:	WAP in C/C++ to find the sum of individual digits of a number.
Program 15:	WAP in C/C++ to check whether a number is prime or not.
Program 16:	WAP in C/C++ to check whether a number is perfect or not.
Program 17:	WAP in C/C++ to calculate exponential of a number.
Program 18:	WAP in C/C++ to generate table of any number up to certain limit.
Program 19:	WAP in C/C++ to generate perfect number series within range.
Program 20:	WAP in C/C++ to generate even series.
Program 21:	WAP in C/C++ to generate fibonacci series up to certain limit.
Program 22:	WAP in C/C++ to generate prime series within m-n numbers.
Program 23:	WAP in C/C++ to check whether a number is Armstrong or not.
Program 24:	WAP in C/C++ to check whether a number is Palindrome or not.
Program 25:	WAP in C/C++ to show 1-dimensional, 2-dimensional and Multidimensional arrays.
Program 26:	WAP in C/C++ to find sum of elements of an array of 'n' elements.
Program 27:	WAP in C/C++ to find largest element in an array of 'n' elements.
Program 28:	WAP in C/C++ to find second largest element in an array of 'n' elements.
Program 29:	WAP in C/C++ to find smallest element in an array of 'n' elements.
Program 30:	WAP in C/C++ to Reverse elements of an array of 'n' elements.
Program 31:	WAP in C/C++ to search an element in an array of 'n' elements using Linear Search.
Program 32:	WAP in C/C++ to search an element in an array of 'n' elements using Binary Search
Program 33:	WAP in C/C++ to find Frequency of a particular element in an array of 'n' elements.
Program 34:	WAP in C/C++ to find Frequency of every element in an array of 'n' elements.



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Program 35:	WAP in C/C++ to Sort an array of 'n' elements using Bubble Sort.
Program 36:	WAP in C/C++ to Sort an array of 'n' elements using Selection Sort.
Program 37:	WAP in C/C++ to Insert an element in an array of 'n' elements at the beginning, at the end and at some specific location.
Program 38:	WAP in C/C++ to Delete an element in an array of 'n' elements at the beginning, at the end and at some specific location.
Program 39:	WAP in C/C++ to find the length of a string without using any string handling function.
Program 40:	WAP in C/C++ to concatenate two strings without using any string handling function.
Program 41:	WAP in C/C++ to compare two strings without using any string handling function.
Program 42:	WAP in C/C++ to copy one string into another string without using any string handling function.
Program 43:	WAP in C/C++ to find the length of a string using strlen() function.
Program 44:	WAP in C/C++ to concatenate two strings using strcat () function.
Program 45:	WAP in C/C++ to compare two strings using strcmp () function.
Program 46:	WAP in C/C++ to copy one string into another string using strcpy () function.
Program 47:	WAP in C/C++ to show pointers, pointer declaration and pointer Initialization.
Program 48:	WAP in C/C++ to add two numbers using pointers.
Program 49:	WAP in C/C++ to show pointer arithmetic.
Program 50:	WAP in C/C++ to show pointers and scale factor.
Program 51:	WAP in C/C++ to show the use of pointer to pointer.
Program 52:	WAP in C/C++ to swap any two numbers using call by value.
Program 53:	WAP in C/C++ to swap any two numbers using call by reference.
Program 54:	WAP in C/C++ to show pointer to a string.
Program 55:	WAP in C/C++ to find sum of array elements using pointer
Program 56:	WAP in C/C++ to show how to pass a pointer as an argument to a function
Program 57:	WAP in C/C++ to show how a function returns pointer.
Program 58:	WAP in C/C++ to show the use of structure, structure variable declaration and initialization.
Program 59:	WAP in C/C++ to show structure within a structure (nesting of structures).
Program 60:	WAP in C/C++ to implement function with no arguments and no return value.
Program 61:	WAP in C/C++ to implement function with arguments but no return value.
Program 62:	WAP in C/C++ to implement function with arguments and return a value.
Program 63:	WAP in C/C++ to implement function with no arguments but return a value.
Program 64:	WAP in C/C++ to check whether a number is even or odd using functions.
Program 65:	WAP in C/C++ to show how to insert elements into an array and display the same.
Program 66:	WAP in C/C++ to find the sum of elements of an array of n elements using functions.
Program 67:	WAP in C/C++ to find the largest element in an array of n elements using functions.
Program 68:	WAP in C/C++ to find the smallest element in an array of n elements using functions.
Program 69:	WAP in C/C++ to search an element in an array of n elements using linear search using functions.
Program 70:	WAP in C/C++ to search an element in an array of n elements using binary search using functions.



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Program 71:	WAP in C/C++ to reverse an array of n elements using functions.
Program 72:	WAP in C/C++ to find the frequency of an element in an array of n elements using functions
Program 73:	WAP in C/C++ to find the frequency of every element in an array of n elements using functions.
Program 74:	WAP in C/C++ to sort an array of n elements using bubble sort using functions.
Program 75:	WAP in C/C++ to insert a new element at the beginning of an array of n elements using functions.
Program 76:	WAP in C/C++ to insert a new element at the end of an array of n elements using functions.
Program 77:	WAP in C/C++ to insert a new element at the specific position of an array of n elements using functions.
Program 78:	WAP in C/C++ to delete an element at any position of an array of n elements using functions.
Program 79:	WAP in C/C++ to find sum of elements in a two dimensional array.
Program 80:	WAP in C/C++ to find largest element in a two dimensional array.
Program 81:	WAP in C/C++ to perform addition of two matrices.
Program 82:	WAP in C/C++ to perform multiplication of two matrices.
Program 83:	WAP in C/C++ to show class and object concepts.
Program 84:	WAP in C++ to pass object as a function argument and function returning an object.
Program 85:	WAP in C++ to show the use of inline function.
Program 86:	WAP in C++ to show the use of default arguments.
Program 87:	WAP in C++ to illustrate the concept of Constructors.
Program 88:	WAP in C++ to illustrate the concept of default constructors.
Program 89:	WAP in C++ to illustrate the concept of parameterized constructors.
Program 90:	WAP in C++ to illustrate the concept of copy constructor.
Program 91:	WAP in C++ to illustrate the concept of constructor overloading.
Program 92:	WAP in C++ to illustrate the concept of destructors.
Program 93:	WAP in C++ to illustrate the concept of inheritance.
Program 94:	WAP in C++ to illustrate the concept of single inheritance.
Program 95:	WAP in C++ to illustrate the concept of multiple inheritance.
Program 96:	WAP in C++ to illustrate the concept of multi-level inheritance.
Program 97:	WAP in C++ to illustrate the concept of hierarchical inheritance.
Program 98:	WAP in C++ to illustrate the concept of hybrid inheritance.
Program 99:	WAP in C++ to show the use of virtual functions.
Program 100:	WAP in C++ to show the use of virtual Base Class.
Program 101:	WAP in C++ to show the use of Friend Function
Program 102:	WAP in C++ to illustrate the concept of function overloading.
Program 103:	WAP in C++ to illustrate the concept of function overriding.
Program 104:	WAP in C++ to show the use of Files.
Program 105:	WAP in C++ to show the use of templates

