

Advanced C programming

Course Contents

Chapter	Chapter Name and Contents		
1	Datatypes, Type modifiers, Operators and Type conversion - Discussing data types and type modifiers in C and their uses Briefing Arithmetic, Relational, Logical, Compound Assignment, Increment and Decrement Operators. - Exploring Bitwise operators, Ternary Operator and Comma operator - Operator precedence and associativity - Type conversion - Programs and Output tracing questions	8 Hrs.	
2	C Pre Processor Directive and exploring Built-in header files - Macros (User defined and built-in macros) - File Inclusion Directive - Pragma directive - Creation of user defined header files (Multi file application) - Exploring few built-in header files - Programs and Output tracing questions	8 Hrs.	
3	Revisiting the Basic Concepts: Array, Functions and Pointers - Inline function - Introduction to 1-D and 2-D array and their initialization (Discussing only array of integers and array of characters) - Variable Length Arrays - Linear Search and Binary Search - Variable length argument function (built-in and user defined) - Exploring va_start(), va_arg(), va_copy(), va_end() macros - Basics of pointers - Command line arguments - Programs and Output tracing questions	12 Hrs.	
4	User Defined Types - Structure, union and enumeration - Array of structure - Nested structure - Bit field - Masking - Structure Padding - Programs and Output tracing questions	8 Hrs.	
5	File Handling in Depth: - Textual file and Binary File handling - Discussing the concept of streams(Buffered and unbuffered) - Exploring various functions involved in file handling operations: fgetc(), fputc(), fgets(), fputs(), fscanf(), fprintf(), fread(), fwrite(), fopen(), fclose(), feof(), remove(), rename(), etc. - Programs based on file handling concepts using advanced file opening modes (w+, r+, a+)	12 Hrs.	
Total No. of Lectures		48	