

Introduction to ANSI C Language

Duration	5 days.
Participants	Programmers.
Objectives	Upon successful completion of this course you will be able to: • Create moderate level programs using compiled statements, preprocessor directives, and calls to standard library functions.
Overview	This course provides a comprehensive introduction to ANSI C Language through lecture, examples, and exercises. The course material contains over 160 complete programs, including input and output examples
Prerequisites	Programming experience in any procedural language.
Format	Lecture and discussion (50%) with programming exercises (50%).
Topic Outline	C Programming Basics - Introductory Concepts - Simple "Hello World" Programs - Identifiers - Constants - Expressions - Declarations of Variables of the Basic Data Types User-defined types - One and two-dimensional arrays - Pointers - Strings - Structures - Pointers to structures - Unions - Arrays of pointers to strings - Pointers to pointers Operators - Arithmetic - Comparison - Assignment - Bitwise - Sizeof - Cast - The ternary operator

Introduction to ANSI C Language *(continued)*

Topic Outline

Control Structures and Keywords

- if
- switch
- while
- do while
- for
- break
- continue

I/O Functions

- printf, scanf
- fprintf, fscanf
- getchar, getc, fgetc
- putchar, putc, fputc
- gets, puts
- fgets, fputs
- fopen, fclose
- fread, fwrite

String Functions

- strlen, strcpy, strcat, strcmp
- sscanf, sprintf

Function Calls

- Prototypes
- Passing scalar, pointer, and structure arguments
- Return values

Storage classes

- Auto
- Static
- External
- Extern

Preprocessor Directives

- #include
- #define and macros
- #ifdef and conditional compilation

Symbolic Constants in <stdio.h> and <ctype.h>

Command Line Arguments: argc and argv