Sela.

C8

Advanced C Programming

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C8 - Version: 3

🕐 3 days Course

Description:

This course is designed to expand the knowledge of C programmers by teaching some of the more advanced features of the C language, features that are often used only by experienced and knowledgeable programmers. The course material includes many examples. Since an understanding of the topics of this course is a basic need of every programmer who wants to excel in C programming, the course includes many opportunities for hands-on experience

Intended audience:

C programmers wishing to gain a better understanding and deeper knowledge of the advanced features of the C programming language.

Prerequisites:

Knowledge of the C programming language at a level equal to a basic C course
Some experience in C programming

Objectives:

Better understand the C language
Exploit advanced features of the C language to enable efficient programming

Topics:

Files

- File support overview.
- ASCII and binary files.
- Working with files

Preprocessor

- The C Preprocessor - How it works.
- #include.
- #define - Defining named constants.
- #undef.
- Predefined macros (_FILE_ etc.).
- Macros.
- Conditional compilation.
- Preprocessor operators #, ##, defined.
- #line, #error.
- #pragma.

Modular Programming

- Multiple file programs
- Extern and static declaration (for variables and for functions)
- How executable file are created?
- The compiler
- The linker
- Project structure
- Object libraries

Advanced Use of Pointers

- Arrays with negative indexes.
- Using const in pointer declarations.
- void pointers.
- Pointers to functions.
    º The library function qsort.
    º The library function bsearch
- Reallocation.
- Pointer to structures

C Functions and the Environment

- Arguments to main
- Environment variables
    º Library functions getenv, putenv and the global variable environ.
- Functions with a variable number of arguments
- The library function system
- The library macro assert
- The library function perror and global variable errno
- The atexit function
- Recursion