



## C Essentials – Part 2 (Intermediate)

### Syllabus



#### Module 1. Functions and structures

structures; declaring, using and initializing structures; pointers to structures and arrays of structures; the basics of recursive data collections; pointers, arrays and structures as function parameters; function result and the return statement; void as a parameter, pointer and result; parameterizing the main function; external functions and the extern declarator; header files and their role.

#### Module 2. Connecting to the real world: files and streams

files vs. streams; header files needed for stream operations; the FILE structure; opening and closing streams; open modes; the errno variable, reading and writing to/from a stream; predefined streams: stdout, and stderr; stream manipulation: the fgetc(), fputc(), fgets(), and fputs() functions; raw input/output: the fread(), and fwrite() functions.

#### Module 3. Preprocessor and declarations

preprocessor; #include - how to make use of a header file; #define - simple and parameterized macros; the #undef directive; predefined preprocessor symbols; macrooperators: # and ##; conditional compilation: the #if and #ifdef directives; avoiding multiple compilations of the same header files; scopes of declarations; storage classes; user-defined types; pointers to functions; analyzing and creating complex declarations.