



METADATA

Title: Handbook on Compiler Design and Development

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Abstract

The purpose of the book is the introduction of the reader to the compiler construction technology. The book reinforces the acquirement of knowledge through the development experience. Contrary to other books, which are available in Greek and mostly focus on theoretical background, in this book the theoretical background is the vehicle and the development is the motivation and the guide. The structure of this book follows the phases of the compiler construction development. These phases are: lexical analysis, syntax analysis, intermediate code generation, symbol table construction and final code generation. Chapters for each phase, as well as chapters for formal grammars, code optimization and

compiler development tools are incorporated. An educational programming language is defined, for which a fully functional compiler is implemented, which generates machine code starting from a source program. This educational programming language resembles to the C programming language. It is simpler than C, both in programming and data structures. Despite its limited programming capabilities, it supports most familiar programming structures, like "while" and "if-else", as well as some custom ones, the compilation of which is of special interest. It also supports functions and procedures, passing parameters by value and by reference, recursive functions and nesting functions of procedure.

