Programming with ANSI and Turbo C

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Person Education

Programming with ANSI and Turbo C is proposed for anyone interested knowing about the C programming. Programming is used today in very much. It introduces the concept of C programming.

This book is intended for beginners, intermediate level, ad all those who want to learn or expand their knowledge in C programming. A systematic approach has been followed for the beginning of this book to the end. About 450 solved programs have been provided in the book to help student master the programming language. Most of the concept of Turbo C and ANSI are explained in detail with practical application. Each program is thoroughly explained and output is also shown. Each and every program is given in the book is perfectly working. Numerous unsolved questions are given at the end of each chapter. These exercises are meant for testing skills and understanding for solving the problems.

The book has been authorized by Ashok Kamthane. He has done his Master of Engineering degree in first class from S.G.G.S College of Engineering and Technology in Electronics.

This book is divided into 16 chapters. Chapter 1 contains introduction and evolution of C language. It includes history of C language, about ANSI standards, and Turbo-C. Also, it covers the basics of interpreters and compilers. The structure of C program with execution procedure is explained. At the end programming rules for writing C program are also described.

Chapter 2 covers C character set, delimiters, keywords and identifiers, and rules for declaring variables and initializing them. Various data types and their ranges are discussed with their type conversion when one needs to convert them. Also, the constant and volatile type of variable is explained.

Chapter 3 explains the various operators with their priorities. The use of comma and conditional operators are explained. Various operators like arithmetic, relational, logical and bitwise operates, are also covered in this chapter with suitable example.

Chapter 4 deal with various I/O functions of C language. Formatted and unformatted functions with supporting conversion characters and escape sequences are explained. The character I/O, string I/O and frequently useful function are also explained.

Chapter 5 explains the decision control structure of C i.e. if, if-else and switch case statement with their nested use with numerous example. The supporting statements, break, continue and goto are also explained.

Chapter 6 is devoted to loop statements, i.e. for loop, while loop and do-while loop. It also discuss with nested for loop. The limitations of do-while loop and the while loop are covered.

Chapter 7 explained the declaration and initialization of array. It covers one, two, three and multi dimensional array. The characteristics of array are explained. The function scanf() and sprint() are also explained with example.

Chapter 8 covers detail and initialization of strings. The various formats for display of string are explained. The standard string functions are explained with numerous examples. At the end some application of string are explained.

Chapter 9 explains the concept of pointer. The features of the pointer and its declaration are explained. This chapter consists of arithmetic operators with pointers, pointers and arrays, array of pointers, pointers to pointers, and pointer to strings.

Chapter 10 explains the definition and working of function. It explains the use of return statement with suitable example. This chapter comprises types of functions, passing arguments to a function by value and reference, and function as an argument. This chapter also highlights the use of function with different arithmetic operators and control statements. At the end concept of recursion is also explained with suitable example.

Chapter 11 explains different types of variables used in C such as automatic, external, static and register. Various storage classes of variables are also explained.

Chapter 12 explains various pre-defined macros in ANSI and Turbo C as well as user defined macros. It consists of #define, #undef, #include, #line, and conditional compilation. The #error and #pragma directives are also described together with example. At the end, various macros defined in header file stdio.h and ctype.h are explained.

Chapter 13 contains various features of non primitive data types such as structure and union. Features of structure with their declaration and initialization are explained. The use of dot(.) and arrow(->) operators is explained with suitable example. The operation of structure with function, pointer, array and the nested structure with practical application are explained. The typedef statement, enumerated data type and bit fields are discussed.

Chapter 14 explains the concept of file. Various types of file operations including high level and low level files are explained. Use of structure with file is explained. The various functions used during file operations are listed. The command line argument and environment variables with simulation of various Ms-DOS commands are explained.

Chapter 15 explained the concept of dynamic memory allocation, memory models, linked lists, and graphics. Dynamic memory allocation deals with functions such as malloc(), calloc(), realloc() and coreleft(). Link list concept with various operations are also explained. The graphic title describes how to initialize graphics mode, draw various shapes, text attributes and operation with mouse.

Chapter 16 introduces the concepts of C++ programming language.

The book provides lot of information coverage and knowledge in the field of C programming. The faculty members would be able to prepare their lectures using this handbook. At the same time the students would be able to- (i) Acquire knowledge about the various topics. (ii) Make notes for their study purpose. (iii) Prepare for the examination.

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