Donald Dimitry, Thomas Mott, Jr.: INTRODUCTION TO FORTRAN IV PROGRAMMING

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Conceived as a textbook for beginners and advanced students, this work contains three introductory chapters dealing with general features regarding up-to-date numerical computers. After a general description of the internal arrangement and of the operation of the various devices which constitute a numerical computer, the authors show the systems of positional numbering, the conversion of numbers from one numbering base into another and the various systems of binary coding for numbers and for alphabetic characters.

In the final part of the introductory chapters meant for beginners the authors state the basic notions with reference to the programming of numerical computers, including programming in computer speech and review other processes of symbolic programming also including automatic programming speech.

The care with which the authors have blended the notions and explanations stands out. They have succeeded in presenting what is strictly necessary for an understanding of the subsequent chapters which constitute the main purpose of this work.

By reading the first three chapters the beginner can follow the very evolution of thought and hierarchy of notions, obviously without being given any purely special details, and thus becoming acquainted with the principles of programming by means of formal speech.

Starting with chapter 4, the FORTRAN IV speech, the most recent version of this speech is presented such as it has been defined for the IBM 7040—7044 computers.

After introducing the elementary notions regarding the representation of numbers and variables with a fixed and a mobile comma used by the FORTRAN IV system, all the instructions of this speech are systematically described.

This work contains numerous examples showing the use of various notions and instructions, completely solved computation problems, all duly explained in full detail.

Particular attention was granted to directions for input and output, which often embarass the beginner in programming work.

In view of making the readers conversant with concrete working procedures, the chapters containing the details of function routine and the other sub-programmes linked with the FORTRAN IV speech have been extensively treated.

The description of the possibilities provided by this speech finally includes logical operations, and operations with double accuracy and complex numbers.

At the end of the work and in view of checking the knowledge acquired by reading it, the authors present a set of programmes elaborated in FORTRAN IV as well as problems whose solution is left to the reader.

The study of this book and working out of the exercises which it contains provide complete training of the reader as a programming operator in the FORTRAN IV speech.

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