DIGITAL COMPUTER USER'S HANDBOOK
edited by Melvin Klerer and Granino A. Korn,
McGraw-Hill Book Company, New York, 1967, 922 pages, 357 figures

This book has been edited by two noted experts in the domain of electronic computers. Melvin Klerer is a member of the Columbia University staff and president of the Users' Group of the U. S. Association for Electronic Computers, while Granino A. Korn, a professor at the Arizona University, has made a name through his activity in the domain of electronic computers. Under the supervision of the two editors, 30 outstanding personalities in the domain of computation made their contribution to this book.

The book is divided into four parts: programming, numerical technologies, statistical methods and applications of computers.

The first part, dwelling on programming, provides elements on the support of information, the organization of electronic computers, the programming at large, the mistakes which appear, methods of compilation, the structure of the ALGOL 60 language, simulation languages, methods of programming in PERT/CPM problems.

The second part, referring to numerical technologies, opens with a review of the approximation techniques; next deals with the solving of algebraic linear equations and matrix problems, the solving of non-linear equations, interpolation, the curve connection and differentiation, numerical integration, numerical solutions to differential equations and to equations with partial derivatives.

In the part on the statistical methods, after a brief introduction of the basic concepts of the fundamental methods, follows the description of a number of statistical technologies related to computers, the generation of accidental numbers and the introduction of the Monte Carlo methods.

The last part is headed "Applications of general computers" and holds a vast domain of concerns.

It starts with the symbolical logic and its applications in the synthesis of the combinatorial functions and the sequential circuits.

Elements of the theory of information and of codes are supplied: The mathematical programming is illustrated by two chapters: the linear programming and the non-linear programming.

This part presents the Simplex and Revised Simplex methods and tackles the problem of transport. It supplies examples of solving the problems.

The non-linear programming is illustrated by minimization of problems without constraint, integral programming, stochastic programming and dynamic programming.

A chapter deals with the processing of data, describing the way in which a commercial centre for the processing of data has to be organized. Another chapter enlarges upon the problem of using the digital electronic computers for the logical design, and the way in which some solutions can be minimized.

The problems on the availability of information, technologies of parametric optimization, the control of planning and stock, the operations in real time with small universal computers, are next tackled.

From the simple enumeration of the main themes tackled, it appears most conspicuous how varied the domain of utilization of electronic computers and the diversity of the themes is approached.

The handbook has been worked out at a high mathematical standard, in keeping with the training level of those using now the digital computers.

It may be of use to all those concerned by electronic computers, this machine which is irreplaceable in our epoch, as it has become an indispensable component of the contemporary technical and scientific life.

Prof. E. Nicolau