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PROGRAMAREA CALCULATOARELOR ELECTRONICE

(Electronic Computers Programming)

Editura Academiei R. S. Romania, 1967, 384 pp., 171 references.

This work is a monograph dedicated to the programming of electronic computers — an extremely important domain of present day science and technique, with large practical applications.

The monograph is formed of two parts and two appendices, to which an introduction must be added.

Part I — called General Principles — deals with the systems of positional numeration and binary arithmetics; then, introductive ements on programming, algorithmic languages and programming systems are given.

A special chapter is dedicated to the description of the computation processes with the help of computation flow charts.

Part II focusses on code programming, with application to the CIFA 102 Economist computer. After giving details on the general organization of the computer, the structure of instructions and the computer's code is presented. Next follows the description of programmes, with or without cycling, and finally, of the computation and programming methods applied in economic cybernetics.

The last part deals with the algorithmic language ALGOL. The method adopted by the author consists of the rendition, in full translated version, of the revised report on the ALGOL 60 algorithmic language. The original report is supplemented with explanatory notes of the author.

The book includes at the same time a series of programmes drawn out in the ALGOL system. It provides in conclusion the results of the author's own research on the L-language, a restriction of the ALGOL language for small and medium-size computers.

Worth mentioning among appendices is the one called "Applications", containing programming problems and drills (worked out by M. Chirică). The description of an electronic computer operating in Romania is also given in another appendix.

The author presents in his work a number of his own contributions, such as: the computation of the modulo 2 irreductible polynoms by means of computers; contributions to the transportation problem; iterative methods of matrix inversion. Ample space is dedicated to the original results in solving systems of linear algebraic equations.

The book includes many data on electronic computers, the domains in which they are most used, their dissemination all over the world, performances of the main existing computers, etc.

The abundant material presented in the book makes it useful to everybody interested in problems of electronic computers programming. The clear style and rich content of the book render it particularly useful to both people eager to learn about programming problems and to research workers who own experience in this domain.

Prof. E. Nicolau

