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Accession By: Peter Canavan
Object name: Programming the Z80
Vintage: c.1979
Synopsis: Rodnay Zaks, ISBN 0-89588-013-X, Sybex Inc, 2344 Sixth Street, Berkeley, California 94710.

Description:
Rodnay Zaks books (also see *Microprocessor Interfacing Techniques* elsewhere in this catalog) were popular guides for design engineers, students and enthusiasts in the late 1970s.

When introduced in Jul-1976 the Zilog Z80 was the most powerful 8-bit CPU on the market. Its internal circuitry was designed by the legendary Masatoshi Shima, while Federico Faggin designed the instruction set, a superset of that of the Intel i8080.

Programming the Z80 describes the Z80 CPU hardware, instruction set and address modes, and basic I/O techniques, then covers application examples, data structures and program development.

The instruction set is described in very great detail, so this book was an excellent reference for such details. It is also a good snapshot of the simplicity of a mid-to-late 1970s microprocessor, just before the evolution of increasingly complex 16/32/64-bit architectures.

Many thanks to Peter Canavan, Network Manager, Broadcast Operations, Australian Broadcasting Commission (ABC), who donated this item from his personal collection.

The homepage for this catalog is at: https://www.scss.tcd.ie/SCSSTreasuresCatalog/
Click *'Accession Index'* (1st column listed) for related folder, or *'About'* for further guidance. Some of the items below may be more properly part of other categories of this catalog, but are listed here for convenience.

Accession Index	Object with Identification
TCD-SCSS-V.20160121.002	Rodnay Zaks, Programming the Z80, ISBN 0-89588-013-X, Sybex Inc, 2344 Sixth Street, Berkeley, California 94710, c.1979.

Figure 1: Programming the Z80 front cover

PROGRAMMING THE Z80

has been designed both as an educational text and as a self-contained reference book. As such, it can be used as a complete introductory book on programming, ranging from the basic concepts to advanced data structures manipulations.

It also contains a comprehensive description of all the Z80 instructions as well as its internal operation, and should provide a comprehensive reference for the reader who is already familiar with the principles of programming, but wishes to learn the Z80.

This book is the result of extensive experience by the author in the field of education and programming. As such, it has been designed to be clear and easy to read. All concepts are explained in simple yet precise terms, building progressively towards more complex techniques. The reader will gain not only an understanding of programming in the language of the Z80 but also a detailed understanding of the way a microprocessor such as the Z80 actually executes instructions. The reader will follow the flow of execution between the various registers and along the buses. This is indispensible for effective programming at machine level in the world of microprocessors. Because programming is not just the skill of coding an algorithm into a programming language but also the art of designing appropriate data structures, an extensive chapter on data structures is presented, which both introduces the concepts and actual application programs. The reader will find there lists, tables, binary trees, and the required algorithms.

After reading this book, the reader should have acquired all the basic skills required to program not just at the elementary level, but in most practical cases.

ABOUT THE AUTHOR

Dr. Rodnay Zaks has been involved with the industrial use of microprocessors since they first appeared. He is the author of a number of best-selling books on all aspects of microprocessors. He has taught microprocessor courses to more than 5,000 people internationally, ranging from the introductory level to bit-slice microprogramming techniques. He holds a Ph. D. in Computer Science from U.C. Berkeley, and is a member of ACM and IEEE.

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Figure 2: Programming the Z80 rear cover

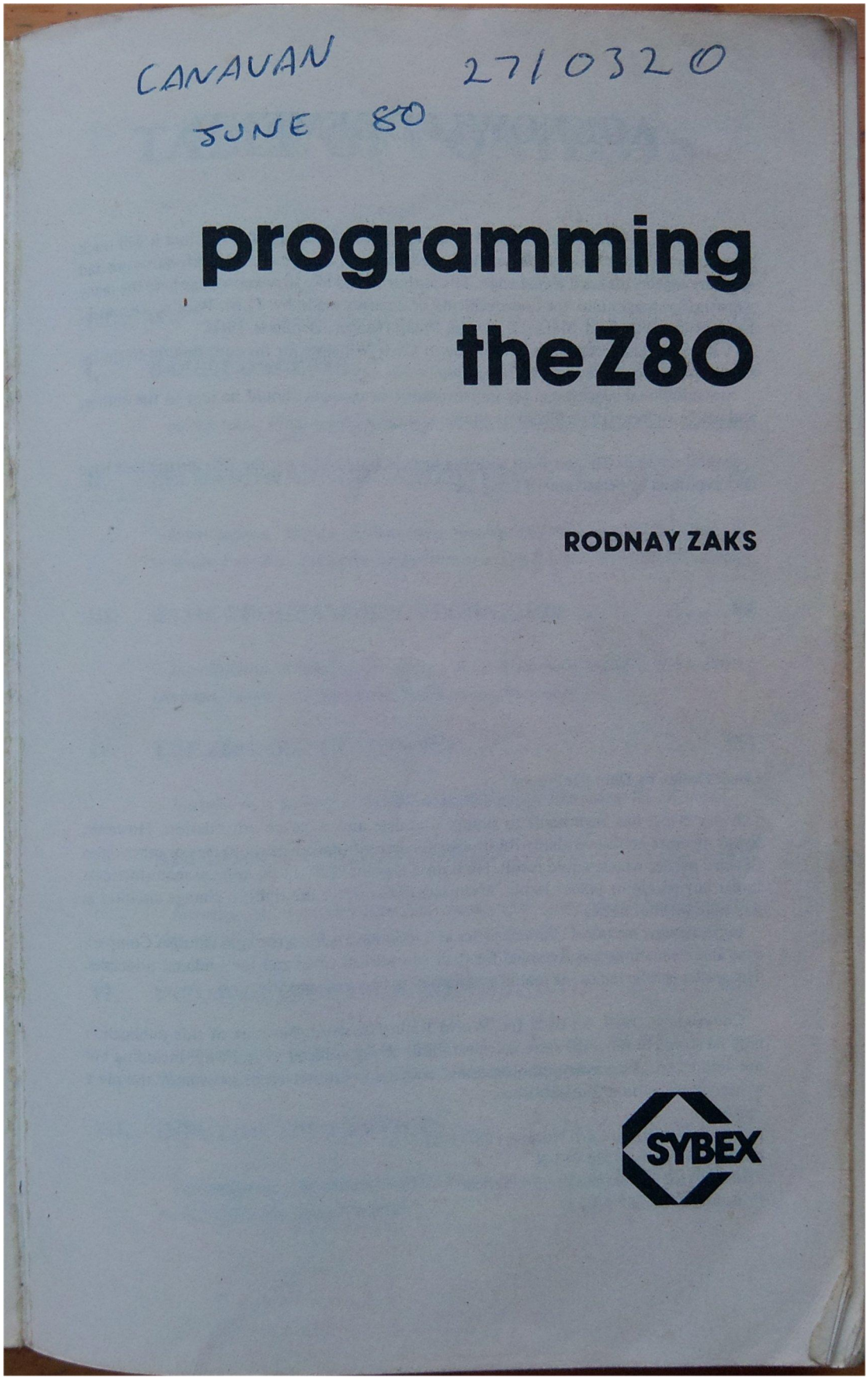

Figure 3: Programming the Z80 title page

ACKNOWLEDGEMENTS

Designing a programming textbook is always difficult. Designing it so that it will teach elementary programming as well as advanced concepts while covering both hardware and software aspects makes it a challenge. The author would like to acknowledge here the many constructive suggestions for improvements or changes made by: O.M. Barlow, Dennis L. Feick, Richard D. Reid, Stanley E. Erwin, Philip Hooper, Dennis B. Kitsz.

A special acknowledgement is also due to Chris Williams for his contribution to the instruction-set and the data structures section.

Any additional suggestions for improvements or changes should be sent to the author, and will be reflected in forthcoming editions.

Several tables in Chapter Four showing hexadecimal codes for the Z80 instructions have been reprinted by permission of Zilog Inc.

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