INTRODUCTION TO THE COMPUTER

THE TOOL OF BUSINESS

WILLIAM M. FUORI

Second Edition

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The Tool of Business, Second Edition
William M. Fuori

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The Tool of Business

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INTRODUCTION

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TO THE COMPUTER

THE TOOL OF BUSINESS

SECOND EDITION

PRENTICE-HALL, Inc., Englewood Cliffs, New Jersey 07632

To my wife Elizabeth
and my children Elizabeth E. and Michael T.

PREFACE

GENERAL PURPOSE

Today's educator, who must prepare a student to enter the automated world of business, faces a most challenging task. He must anticipate the needs of the business community up to five years hence so that his students will be prepared to serve productively and efficiently in tomorrow's business environment.

A major goal of the educator, then, is to determine those new trends that are destined to become an integral part, if not the very foundation, of the business structure in future decades.

Automation and the use of computers in every phase of business is today the driving force for change. Educators at all levels, from the private business school, to the community college, to the university, have recognized the impact of the computer on business and have had the foresight not only to recommend but, in many instances, to require that students planning to enter the business field at any level, and in any capacity, be exposed to the computer as an integral part of their business education. To quote Dr. R. L. Bright, Associate Commissioner for Research of the United States Department of Health, Education, and Welfare, anyone who graduates from a college or university ". . . without being instructed in the use of computers has been severely cheated."

This book is written to serve the beginning or advanced business student. It provides him with a basic understanding of what the computer is, what the computer can do, and how the computer can serve him in his professional endeavors. In addition, this text covers those topics recommended by the American Institute of Certified Public Accountants. This text is recommended for use in a one semester survey course or in an introductory course designed for the business student contemplating an in-depth study of computers or programming languages. In either case, having completed this one semester course, the student will be equipped to communicate his needs and requirements to the data-processing personnel in his organization.

STRUCTURE OF TEXT

As in the first edition, this edition is organized to facilitate the student's comprehension of the relevance of data processing in busi-

ness. To accomplish this end, the text has been divided into five units as follows:

Unit 1 introduces the student to the impact of computers on business so that he may clearly understand why he is undertaking such a study, and can determine to what future goals he may apply this knowledge. This unit also traces the development of computers so that the student may study recent trends and innovations in their historical perspective. The topics of computers in society and minicomputers have been added to this unit in this edition.

Unit 2 provides a detailed introduction to the basic components of a typical data-processing system in addition to an introduction to the peripheral equipment surrounding the computer. This edition places far less emphasis on computer number systems than did the first edition. Discussions of the newer and more sophisticated input/output devices, terminal devices, and the concept of virtual storage have been added in the second edition.

Unit 3 discusses program preparation and problem-solving concepts. The student learns what is involved in preparing an application for programming, how to flowchart the logic of the application, and how the flowchart is used in preparing the computer program. It is not uncommon for business people to review flowcharts before an extensive programming effort is begun. They do this to make certain that the programmer has considered, and understood, all aspects of the problem. Changes in the second edition include expanded coverage of the area of executing and debugging a program and an entirely new section on program documentation containing numerous illustrations of the use of standard forms.

Unit 4 exposes the student to two of the most commonly used programming languages in business—COBOL and BASIC. This exposure familiarizes the student with the fundamentals of each language and instructs him on their differences, as well as the advantages and disadvantages of each. The student is then prepared to understand computer programs—in either language—that may be written by a professional programmer to solve his particular problem. COBOL (Common Business Oriented Language) is the most widely used computer language in business and is easily understood because of its Englishlike nature. Since many companies do not have their own on-site computers, they must often

resort to time-sharing. BASIC is one of the most common languages used in time-sharing applications and is, therefore, covered in this text. It is easily learned and, thus, quickly applied by both data processing and non-data processing personnel in business. Changes in the second edition include greatly expanded coverage of the BASIC language and appendexes to each chapter which contain complete and detailed reference summaries for the COBOL and BASIC languages.

Unit 5 discusses system analysis and design. The student is introduced to the concepts of feasibility and application studies, system design considerations, information systems, and other similar items with which he may become associated later in his professional career. In addition, representative payroll, accounts receivable and accounts payable systems are discussed in depth and provide the student with a practical knowledge of what is involved in a typical computerized business system so that the student understands how he can most effectively interact with and use such a system in business. In addition, this unit provides the student with insight into types of information that are—and are not—typically processed on a computer. It also serves to tie together all material previously presented in the text.

UNIQUENESS

This book is different from others that appeal to students in business or business-related areas in several ways:

1. Instead of presenting isolated topics in each chapter, this book provides continuity chapter-to-chapter by means of the unit concept discussed above. This chapter-to-chapter continuity causes the student to view the subject as a whole and not as a series of disjointed topics.
2. Changes in the second edition were the result of a detailed survey of professors teaching an introductory data processing course at colleges across the country.
3. The material in this text has already been successfully "field-tested" for several semesters at Nassau Community College. The enthusiastic response of students has convinced the author that the text is interesting, informative, and easy-to-read.
4. The emphasis of this book differs substantially from most introductory data processing texts. It does not concentrate on teach-

ing data processing students how to program computers, but instead emphasizes how business students can make effective use of the computer as an information-processing tool. Nevertheless, the student will be able to write simple but complete computer programs using the BASIC language in either a conversational or batch mode. Throughout the text, material presented is reinforced with illustrative business examples.

5. This text includes topics in asterisked sections and in chapter appendixes. These sections and appendixes make available to the instructor topics of a more complex and "in-depth" nature should they be desired. The instructor may thus gear the level of the course to fit the interest and backgrounds of his students.
6. This text includes a substantial number of exercises at the end of each chapter in addition to numerous self-study exercises interspersed throughout each chapter. These exercises have been expanded over the first edition and are far in excess of the number and scope of such exercises found in other texts of this type.
7. Programmed questions are provided throughout the text to reinforce previously presented material. In this way, the student derives the benefits of programmed instruction as well as the advantages of a lecture presentation.

TEACHER'S MANUAL

A teacher's manual is available to aid in structuring the course to fit the interests and backgrounds of students. Included in this unprecedented 300 page manual per text chapter is:

- A detailed summary which can be utilized by the instructor as a lecture outline.
- Class discussion questions.
- Text correlated illustrations that may be used directly for the preparation of overhead projector foils.
- Complete and detailed answers to all text exercises.
- Suggested examination questions with corresponding answers.

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The author also wishes to thank the following people for technical assistance and constructive criticism during the production of this second edition:

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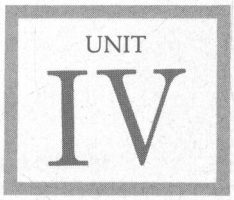

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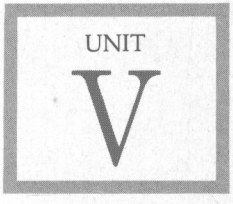
A BASIC reference summary is provided in the Appendix to this chapter for those interested in investigating BASIC more deeply.



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I

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