Computers and Information Processing

CONCEPTS AND APPLICATIONS

6TH EDITION

Steven L. Mandell

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SIXTH EDITION

Steven L. Mandell
BOWLING GREEN STATE UNIVERSITY

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Preface

COMPUTERS & INFORMATION PROCESSING, Sixth Edition marks an exciting departure from its earlier versions. Because of the fast changing market environment, a wide variety of courses exist. These courses differ in their emphasis on traditional topics, microcomputers, hands-on application software coverage, and programming. Because of this diversity in course offerings, a major attempt has been made to ensure that the Sixth Edition is sufficiently flexible to accommodate almost any course within this broad spectrum.

Toward this end, the book is offered in two versions:

- A version with an expanded BASIC supplement.
- A version which is language free.

Additionally, free supplemental manuals are available for Q-Basic and for Macintosh BASIC.

To provide even further flexibility, four separate application software manuals are available to accompany the text. These manuals provide hands-on experience for the following application software packages:

- Word Perfect 5.1, Lotus 2.2, dBASE IV, VP Expert
- Microsoft Works for the IBM
- Microsoft Works for the Macintosh
- PC Type, PC File, PC Calc

The revision work associated with the Sixth Edition has been challenging to say the least. Major developments and advances in information systems have occurred so rapidly that providing current examples is more difficult than ever before. Feedback from instructors using the text continued to provide an excellent source of ideas for making improvements. When it comes to improving content, nothing can replace the actual classroom testing of material. While prior editions of this text have been highly successful, a great deal of care went into updating and refining the latest edition. The result is a Sixth Edition textbook vastly improved in structure and substance.

New Features

Readers familiar with the fifth edition of the text will notice several changes incorporated into the Sixth Edition:

- Updated and revised application software supplement. An entirely new section has been added which covers graphical user interface software in general and, more specifically, applications that are run under Windows 3.0.
- New Articles and Highlights.
- New and updated corporate applications.
- Expanded coverage of business systems.
- Reorganized and improved coverage of computer hardware.
- Increased coverage of portable microcomputers.

- Increased coverage of microcomputer operating systems (including two new appendices).
- Increased coverage of Local Area Networks (LANs).
- Expanded chapter on programming with emphasis on program structure.
- Coverage of Arrays and Sorting has been included in the BASIC supplement.
- Updated coverage on the impact of computers in our society.

Chapter Structure

The most inspiring lectures on computers that I have had the good fortune to attend were presented by Rear Admiral Grace Hopper (Ret.), a leader in the development of early computers. In analyzing her material, which always seemed so interesting, it became apparent to me that she permitted no new concept to remain abstract. Rather, she described actual examples encouraging the listener to visualize their applications. Following Admiral Hopper's example, each chapter in this book is followed by an *Application* that shows how a corporation implements the concepts presented.

Several other important features are included within each chapter. The introductory section serves a dual purpose: as a transition between chapters and a preview of material. An *Article* with high interest appeal draws the student into the chapter. *Highlights* containing interesting computer applications or controversial topics are interspersed throughout the chapter to maintain reader interest. *Concept Summaries* enable students to review quickly the important key topics covered in the text. Chapter summary points, key terms, and review questions are also provided. A comprehensive glossary and index are placed at the end of the text.

Throughout the development of this book the emphasis has been on orienting material to students and assisting students in the learning process. Important concepts are never avoided regardless of their complexity. Many books on information processing emphasize one or two aspects of the subject—either informational relationships or computer capabilities. This book attempts to balance and blend both subjects.

Support Materials for the Instructor

The **Instructor's Manual** by Steven L. Mandell includes answers to review questions, discussion points, exercises and problems, a classroom administration section, enrichment lectures, complete testbank and additional Applications.

Westest 2.0—a computerized testing program for IBM PCs and compatible microcomputers or for the Macintosh.

Transparency acetates. Two and four-color acetates are available to qualified adopters.

Support Materials for the Student

In addition to the supplemental applications software and BASIC manuals, there is a **Student Study Guide** written by the author which includes a summary, review of key terms and definitions, and various self-testing formats for review of each chapter.

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In addition, the student feedback from this course had a significant impact on the new edition.

Many individuals and companies have been involved in the development of the material for this book. The corporations whose Applications appear in this book have provided invaluable assistance. Many professionals provided the assistance required for completion of a text of this magnitude: Russ Thompson and Sarah Basinger on chapter development; Meredith Flynn on the application manuals; Sue Baumann on the BASIC Supplement and instructor material; and Sally Oates on the manuscript preparation.

The design of the book is a tribute to the many talents of Ann Rudrud. Jan Lamar carefully guided the text through the development process. And, one final acknowledgment goes to my publisher and valued friend, Clyde Perlee, Jr., for his encouragement and ideas.

Steven L. Mandell

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