

INTRODUCTOR

DOS 5.0/6.0/6.2

WITH WINDOWS™ 3.1

HARRY L. PHILLIPS

INTRODUCTORY

DOS

5.0/6.0/6.2

WITH WINDOWS™ 3.1

HARRY L. PHILLIPS
Santa Rosa Junior College



Course Technology, Inc. One Main Street, Cambridge, MA 02142

Introductory DOS 5.0/6.0/6.2 with Windows 3.1 is published by Course Technology, Inc.

Vice President, Publisher

Product Manager

Director of Production

Senior Production Editor

Composition

Production Assistant

Copyeditor

Proofreader

Indexer

Product Testing and Support Supervisor

Student Testers

Joseph B. Dougherty

Darlene Bordwell

Myrna D'Addario

Kathryn Dinovo

Gex, Inc.

Christine Spillet

Joan Wilcox

Joyce Churchill

Sherri Dietrich

Jeff Goding

Chris Greacen

Rich Gorham

Kevan Schultz

Elyse Rieder

Gex, Inc.

Elizabeth Martinez

Kim Munsell

John Gamache

Photo Researcher

Prepress Production

Manufacturing Manager

Senior Design Specialist

Cover Designer

Introductory DOS 5.0/6.0/6.2 with Windows 3.1 © 1994 by Course Technology, Inc.

All rights reserved. This publication is protected by federal copyright law. No part of this publication may be reproduced, stored in a retrieval system, or transmitted in any form or by any means, electronic, mechanical, photocopying, recording, or otherwise, or be used to make any derivative work (such as translation or adaptation) without prior permission in writing from Course Technology, Inc.

Trademarks

Course Technology and the open book logo are registered trademarks of Course Technology, Inc.

Some of the product names used in this book have been used for identification purposes only and may be trademarks or registered trademarks of their respective manufacturers and sellers.

Disclaimer

Course Technology, Inc. reserves the right to revise this publication and make changes in its content from time to time without notice.

ISBN 1-56527-151-3

Printed in the United States of America

10 9 8 7 6 5 4 3

From the Publisher

At Course Technology, Inc., we believe that technology will transform the way that people teach and learn. We are excited about bringing you, college professors and students, the most practical and affordable technology-related products available.

The Course Technology Development Process

Our development process is unparalleled in the higher education publishing industry. Every product we create goes through an exacting process of design, development, review, and testing.

Reviewers give us direction and insight that shape our manuscripts and bring them up to the latest standards. Every manuscript is quality tested. Students whose backgrounds match the intended audience work through every keystroke, carefully checking for clarity and pointing out errors in logic and sequence. Together with our own technical reviewers, these testers help us ensure that everything that carries our name is error-free and easy to use.

Course Technology Products

We show both *how* and *why* technology is critical to solving problems in college and in whatever field you choose to teach or pursue. Our time-tested, step-by-step instructions provide unparalleled clarity. Examples and applications are chosen and crafted to motivate students.

The Course Technology Team

This book will suit your needs because it was delivered quickly, efficiently, and affordably. Every employee contributes to this process. The names of all our employees are listed below:

Tim Ashe, David Backer, Stephen M. Bayle, Josh Bernoff, Erin Bridgeford, Ann Marie Buconjic, Jody Buttafoco, Kerry Cannell, Jim Chrysikos, Susan Collins, John M. Connolly, David Crocco, Myrna D'Addario, Lisa D'Alessandro, Howard S. Diamond, Kathryn Dinovo, Katie Donovan, Joseph B. Dougherty, MaryJane Dwyer, Chris Elkhill, Don Fabricant, Kate Gallagher, Laura Ganson, Jeff Goding, Laurie Gomes, Eileen Gorham, Andrea Greitzer, Cathie Griffin, Tim Hale, Roslyn Hooley, Tom Howes, Nicole Jones, Matt Kenslea, Kim Mai, Susannah Lean, Suzanne Licht, Laurie Lindgren, Elizabeth Martinez, Debbie Masi, Dan Mayo, Kathleen McCann, Jay McNamara, Mac Mendelsohn, Laurie Michelangelo, Kim Munsell, Amy Oliver, Kristine Otto, Debbie Parlee, Kristin Patrick, Charlie Patsios, Jodi Paulus, Darren Perl, Kevin Phaneuf, George J. Pilla, Cathy Prindle, Nancy Ray, Marjorie Schlaikjer, Christine Spillett, Susan Stroud, Michelle Tucker, David Upton, Mark Valentine, Renee Walkup, Lisa Yameen.

Preface

Course Technology, Inc. is proud to present *Introductory DOS 5.0/6.0/6.2 with Windows 3.1*, designed for a first course on today's most popular operating system, DOS. This text, targeted at beginning students, clearly describes concepts related to DOS, the DOS Shell, and Windows operating environments. It is designed for use in a first half-semester or short (eight- to nine-week) course in DOS. It is also ideal for a self-paced DOS course that relies on independent study, with minimal direction from the instructor. The text assumes the student has no knowledge of DOS.

Organization and Coverage

Introductory DOS 5.0/6.0/6.2 with Windows 3.1 contains an “Essential Computer Concepts” chapter, six DOS tutorials, and two Windows tutorials. “Essential Computer Concepts” presents an up-to-date overview of computers and covers basic hardware and software concepts. The six DOS tutorials provide hands-on instruction. In these tutorials students learn how to use DOS and the DOS Shell for disk, directory, and file management on computer systems with hard drives and one or more diskette drives. Students perform operations from both the DOS prompt and the DOS Shell so that they know how to complete tasks in both environments. Special icons in the margin of the text call students' and instructors' attention to differences among DOS 5.0, 6.0, and 6.2, the three DOS versions covered in the book. Mouse icons also call out special steps for mouse users, where appropriate. The two Windows tutorials, again with hands-on instruction, introduce students to basic Windows features, emphasize the use of the mouse, and describe how to use File Manager for disk, directory, and file management operations.

Approach

All of the components of this text—“Essentials Computer Concepts,” the DOS tutorials, and the Windows tutorials—are unique in their approach. They motivate students by demonstrating why they need to learn the concepts and skills described in the tutorials. This text teaches DOS using a task-driven rather than a feature-driven approach. By working through the tutorials—each motivated by a realistic case scenario—students learn how to use DOS in situations they are likely to encounter in the workplace, rather than learn a list of commands one by one, out of context. Each discussion motivates students by explaining *why* they will perform a given task.

Features

Introductory DOS 5.0/6.0/6.2 with Windows 3.1 includes the following features:

- ◆ **“Read This Before You Begin” Page** This page is consistent with Course Technology's unequalled commitment to helping instructors introduce technology into the classroom. Technical considerations and assumptions about hardware, software, and default settings are listed in one place at the front of the book to help instructors save time and eliminate unnecessary aggravation.
- ◆ **Objectives** A list of objectives at the beginning of each tutorial orients students to the goals of that tutorial.
- ◆ **Tutorial Scenario** Each tutorial begins with a short problem that students could reasonably encounter in business so that the process of solving the problem will be meaningful to students.

- ♦ **Step-by-Step Methodology** The unique Course Technology, Inc. methodology keeps students on track. They click or press keys, always within the context of solving the problem posed in the case. The text constantly guides students, letting them know *why* they are pressing the keys and describing the results. The numerous screen shots include labels that direct students' attention to what they should look at on the screen.
- ♦ **Page Design** Each page is designed to help students easily differentiate between what they are expected to *do* and what they are expected to *read*. The steps are easily identified by the typeface and numbered bullets.
- ♦ **Chapter Summary** Each tutorial concludes with a concise overview of the features and topics covered in the tutorial.
- ♦ **Command Summary/Features Summary** The Command Summary at the end of each DOS tutorial and the Features Summary at the end of each Windows tutorial provide important reference tools for students prior to examinations.
- ♦ **Questions** Each tutorial contains meaningful, conceptual questions that test students' understanding of what they learned in the tutorial.
- ♦ **Tutorial Assignments** These assignments provide students with additional practice on the skills they learned in the tutorial. Students practice by modifying the problems they solved in the tutorial and by applying what they learned to solve new problems.
- ♦ **DOS and Windows Reference Cards** Removable command and features summaries at the end of the text provide a handy, quick reference for all DOS commands and Windows features covered in the book.

Supplements

- ♦ **Instructor's Manual** The Instructor's Manual is written by the author and is quality-assurance tested. It includes:
 - Answers and solutions to all the Questions and Tutorial Assignments
 - A disk containing solutions to all the Tutorial Assignments
 - Tutorial Notes, which contain background information from the author about the tutorial scenario and the instructional progression of each tutorial
 - Technical Notes, which include troubleshooting tips as well as information on how to customize the student's screens to closely emulate the screen shots in the book
 - Transparency Masters of key concepts, selected by the author
 - Sample course syllabi
- ♦ **Test Bank** The Test Bank contains more than 50 questions per tutorial in true/false, matching, and short-answer formats. Each question has been quality-assurance tested by students to achieve clarity and accuracy.

Acknowledgments

I want to thank John Connolly, President of Course Technology, Inc., for his initial and ongoing commitment to the production of high-quality textbooks. I also want to thank the dedicated staff members of Course Technology for their invaluable professional contributions to this textbook. In particular, I thank Joe Dougherty, Publisher, for initiating this project and for his ideas, interest, and ongoing support. I especially thank Darlene Bordwell, Product Manager, for her insight, support, cooperation, and successful management of this project. As my primary contact on a day-by-day basis, Darlene facilitated and guided this project with grace and ease.

In addition, I thank Jeff Goding, Product Testing and Support Supervisor, for his supervision of the quality assurance process. The student testers, Richard Gorham, Kevan Schultz, and Chris Greacen, thoroughly tested the text and offered valuable suggestions for improving the quality of the presentation. I thank Kathryn Dinovo, Senior Production Editor, for carefully supervising the final assembly of the book; Kim Munsell, Senior Design Specialist, for her contributions to the book's design; Joan Wilcox, Copyeditor, for her editing and for her suggestions, which improved the flow and comprehension of the text; and Joyce Churchill, Proofreader, for verifying the accuracy of the final text.

The reviewers of this textbook—Susan Isermann, Illinois Valley Community College; Charles Fromme, Queensborough Community College; Lloyd E. Stallkamp, Northern Montana College; Kathy Medved, Pierce College; Stephanie J. Snyder, Lake Tahoe Community College; and Patrick Chan, Porterville College—all offered constructive comments on the direction and coverage, as well as the presentation of concepts and features, and deserve special thanks for their efforts.

Finally, I thank my many friends, coworkers, colleagues, family, and parents for their unqualified support while I worked on this project.

Harry L. Phillips

Essential Computer Concepts



Essential Computer Concepts

OBJECTIVES

In this chapter you will learn to:

- ◆ Define and describe a computer and its major functions
- ◆ Distinguish among a microcomputer, a minicomputer, a mainframe, and a supercomputer
- ◆ Describe the major hardware components of a computer
- ◆ Describe the functions of common input and output devices
- ◆ Understand the function of processing hardware
- ◆ Measure storage capacities of memory and disks
- ◆ List the sizes and capacities of common storage media
- ◆ Describe the major types of computer software, including systems software and applications software
- ◆ Understand the importance and use of computer networks

WHAT IS A COMPUTER?

A **computer** is an electronic tool that automates tasks by performing operations at remarkably fast speeds. These operations include mathematical calculations, comparisons of numbers and characters, restructuring of text, and the display of graphic images. Computers therefore organize and process **data**—facts, figures, and images—to produce useful information.

To accomplish these operations, computer systems must include specific types of hardware that operate under the control of software. The **hardware** includes the physical components that enable the computer system to access, process, display, and print data. The **software** consists of **programs**, or sets of instructions, for accomplishing a task. One important and indispensable software component is the **operating system**, which manages the operation of the computer system and the use of other software.

Businesses use computers to manage financial information, produce business projections, develop business strategies, enhance the preparation and presentation of important business documents, design graphics, transmit information nearly instantaneously from one business office to another around the world, handle business transactions, and perform many other essential business tasks. Computers improve the productivity and efficiency of employees, and enable businesses to meet timelines critical to their success in the marketplace. Computers also play an important role in agriculture, industry, engineering, aeronautics, astronomy, space exploration, oceanography, the biological sciences, physics, mathematics, medicine, the judicial system, politics, environmental studies, music, and the arts.

TYPES OF COMPUTERS

Computers often are classified by their size, speed, and cost. **Microcomputers**, or **personal computers (PCs)**, are priced from \$500 to \$15,000 for individual and business use. Microcomputers are designed for use by a single person and easily fit on a desktop (Figure 1). **Laptop computers** are smaller microcomputers that fit comfortably on your lap (Figure 2). **Notebook computers** are even smaller microcomputers that can easily fit into a briefcase (Figure 3). Laptop



Figure 1
Microcomputers in an office environment

and notebook computers are compatible with other, larger microcomputers. They use the same operating system and can share software and data. Microcomputers of all sizes are used extensively in businesses of all sizes as well as for personal use.

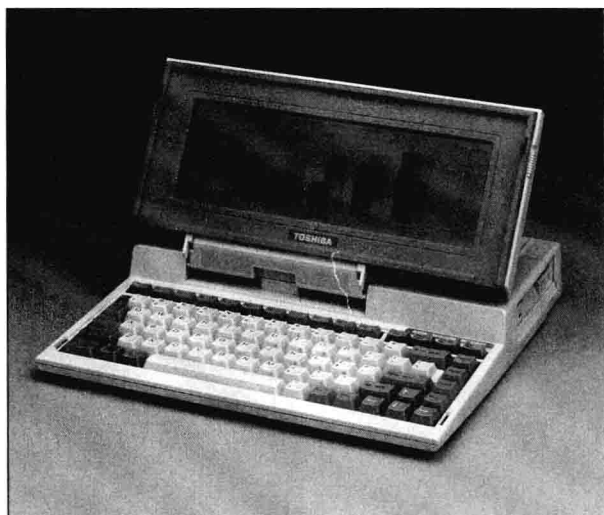


Figure 2
A laptop computer

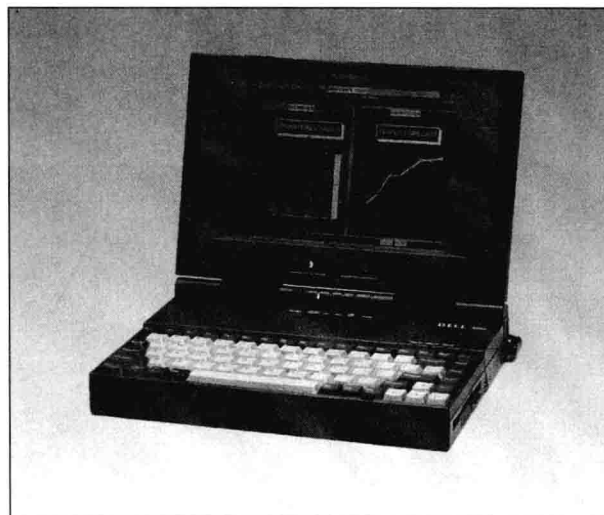


Figure 3
A notebook computer

Large businesses, government agencies, colleges and universities, and other institutions also use larger and faster types of computers called **mini-computers** (Figure 4). Minicomputers require more office space than microcomputers, operate 3 to 25 times faster than microcomputers, store and



Figure 4
A minicomputer

process much larger quantities of data, and are priced from \$15,000 to \$500,000. Minicomputers can support multiple users working on **workstations**, or computer **terminals**, in remote offices.

A still larger and more powerful type of computer is the **mainframe computer** (Figure 5). Mainframes have even larger capacities for storing and processing data, run 10 to 100 times faster than microcomputers, require a specially controlled environment, and are priced from \$100,000 to \$2,000,000. Mainframes also support a much larger number of multiple users than minicomputers.



Figure 5
A mainframe computer

Supercomputers, the largest and fastest computers, expend so much energy that they require their own internal cooling systems to dissipate the heat generated during their operation (Figure 6). Supercomputers are expensive, often costing hundreds of millions of dollars. Only the largest corporations, government agencies, and universities can afford supercomputers. Typically, supercomputers run 50 to 10,000 times faster than microcomputers and handle such complex problems as weather forecasting, earthquake prediction, and petroleum surveying.

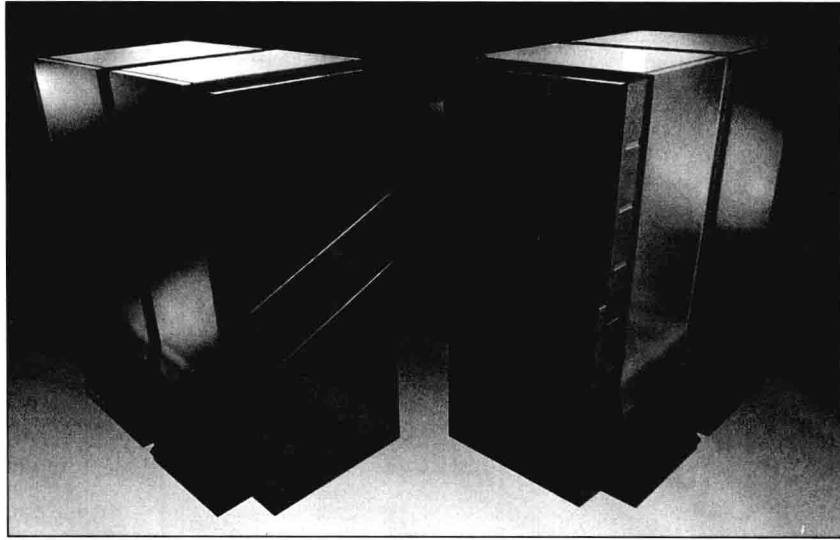


Figure 6
A Cray supercomputer

As a result of the rapid changes in technology, the criteria used to distinguish these types of computers is also changing. For example, newer and more sophisticated types of microcomputers outperform some minicomputers.

TYPES OF MICRO- COMPUTERS

Most microcomputers use one of two similar operating systems to manage the internal operation of the computer system: PC-DOS (Personal Computer Disk Operating System) or MS-DOS (Microsoft Disk Operating System). IBM Corporation assembles IBM PCs that use PC-DOS. Other manufacturers, such as Compaq and Dell, assemble IBM-compatible microcomputers that use MS-DOS. Both IBM PCs and most compatibles contain Intel microprocessors. The **microprocessor** is a special computer chip that processes data using program instructions. Over the years, Intel Corporation has produced new and more powerful microprocessors for use in IBM PCs and compatibles.

In contrast, microcomputers produced by Apple Computer, such as the Macintosh, use microprocessors produced by Motorola and use a different operating system. These microcomputers are noted for their high-quality display and graphics and ease of use as well as desktop publishing capabilities.

MAJOR FUNCTIONS OF A COMPUTER

Computers perform four basic functions: input, processing, output, and storage (Figure 7). **Input** refers to the process of providing data and instructions to a computer system so that it can accomplish some type of useful task with that data. **Processing** refers to the ways in which the computer uses input to produce meaningful information. Processing includes operations such as arithmetic computations, logical comparisons, rearrangement of data, and the production of images or pictures. **Output** refers to the transmission of the results of computer processing to you, the user. For example, the computer might display or print the results of processing, thus producing output. **Storage** refers to the process of recording data and information to some type of permanent storage medium, such as a disk or magnetic tape, for later use. To perform these basic operations, a computer system must include both hardware and software.

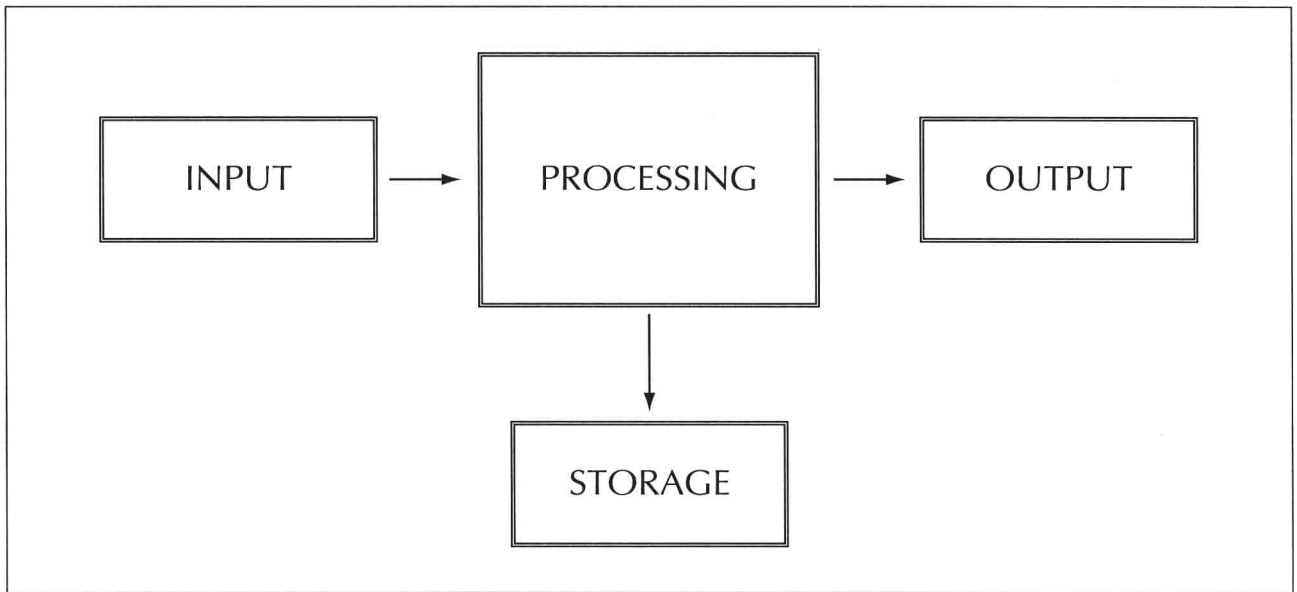


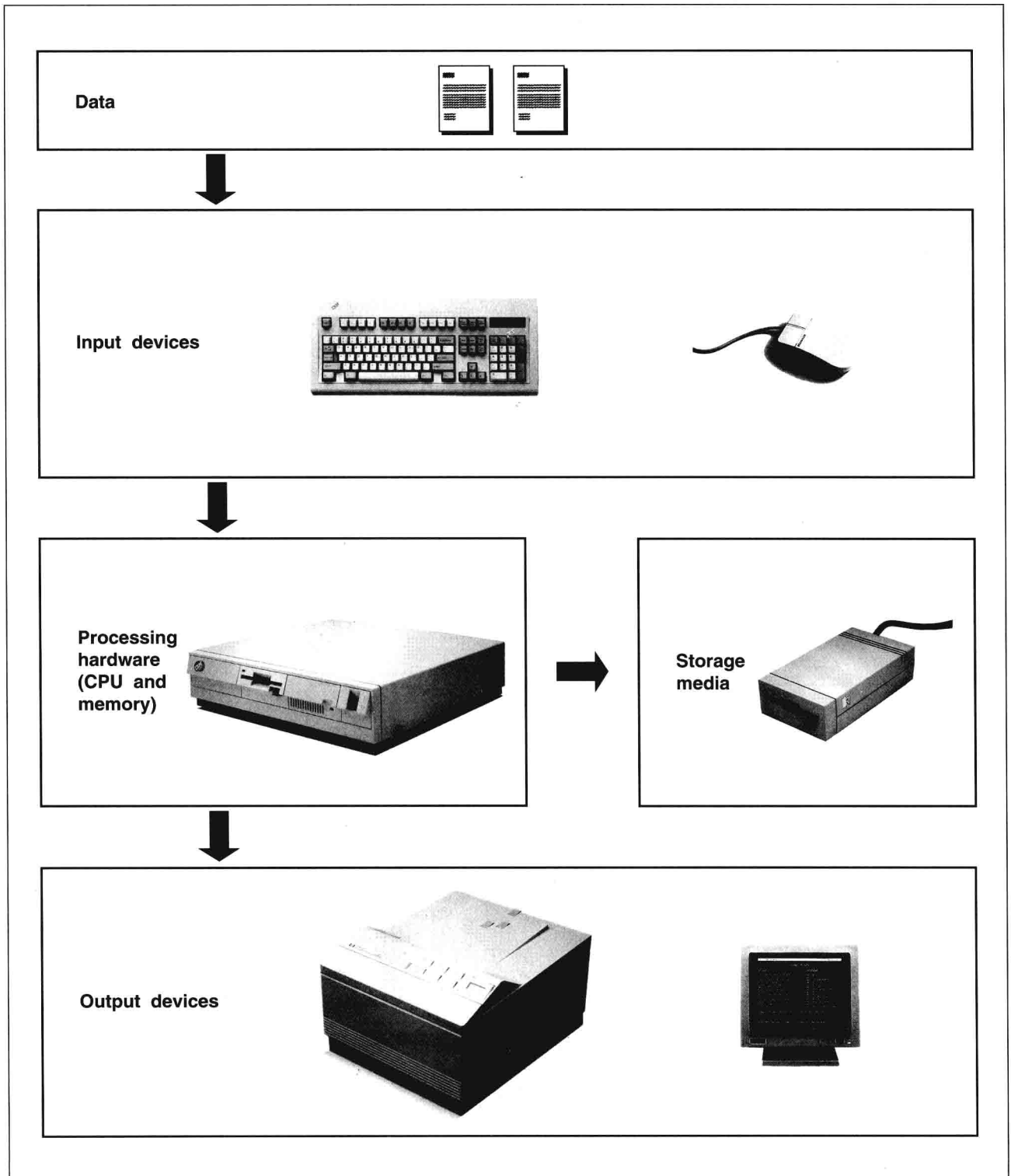
Figure 7
Major functions of a computer

COMPUTER HARDWARE

Computer hardware is typically divided into four categories to reflect the types of activities that the hardware performs: input devices, processing hardware, output devices, and storage media (Figure 8). The term **device** refers to a component within a computer system. The standard hardware components in a microcomputer system include a keyboard, a system unit, a monitor (or video display unit), disk drives, and a printer.

Input Devices

You use **input devices** to provide data and **commands** (instructions) to the computer. The two primary microcomputer input devices are the keyboard and the mouse.

**Figure 8**

The relationship among input devices, processing hardware, output devices, and storage media

Most of the keys on your computer keyboard work just like the keys on a typewriter. Some features of a computer keyboard, however, are unique to computers. Figure 9 shows the standard 83-key keyboard, and Figure 10 shows the more common enhanced 101-key keyboard.

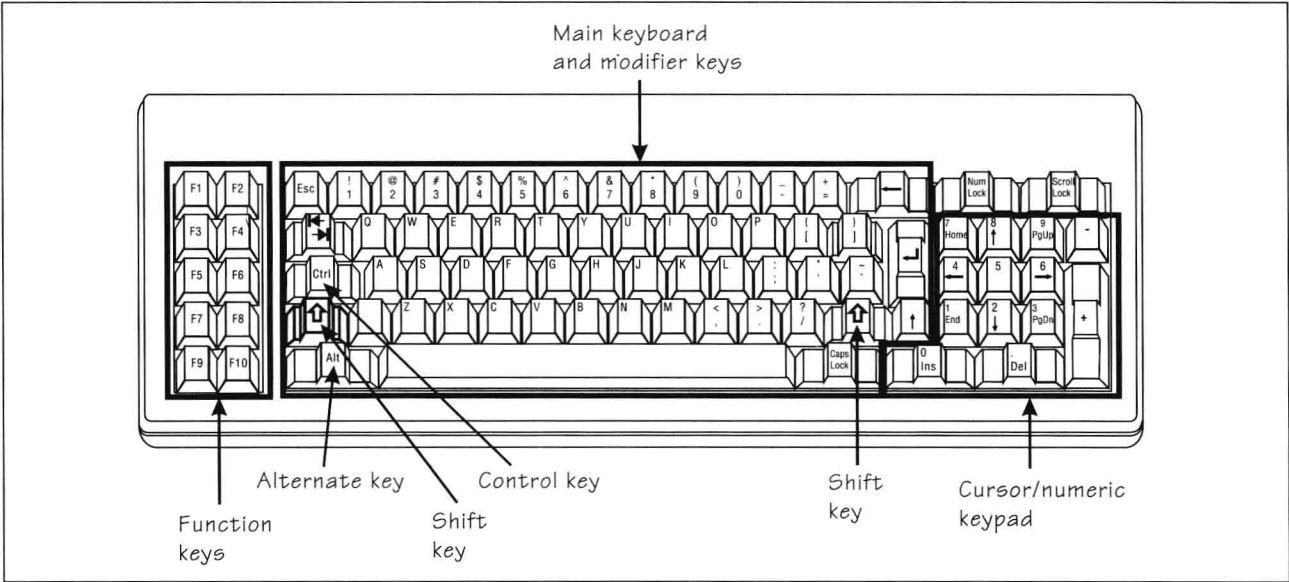


Figure 9
The standard 83-key keyboard

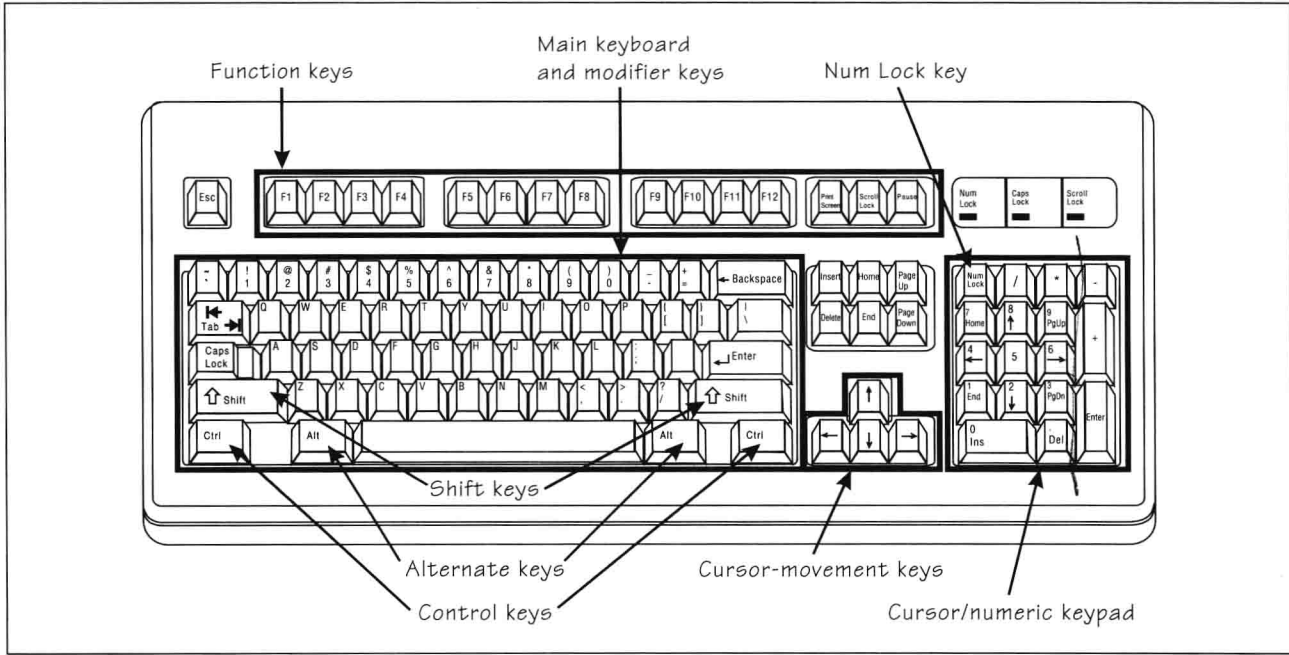


Figure 10
The enhanced 101-key keyboard

These computer keyboards include groups of keys that form the main keyboard, numeric keypad, cursor movement keys, editing keys, and function keys. The keys on the main keyboard work like the keys on a typewriter. To type text, you just press the keys. Sometimes you press more than one key. A **modifier key** is a key that is pressed in conjunction with another key to change the keyboard output. For instance, to type uppercase letters or symbols, such as the colon (:), you press the Shift key (a modifier key) and, while holding it down, press the desired keyboard letter or symbol key, and then release both keys. In addition, you can combine modifier keys, such as the Shift key, the Alt (alternate) key, and the Ctrl (control) key, with other keystrokes to accomplish special tasks, such as saving or printing data, within particular programs. It is important to remember that these key combinations vary with the type of program you use.

The **numeric keypad** on both the standard and the enhanced keyboards is located to the right of the main keyboard. You can use the keys on the numeric keypad in two ways: to enter numbers or to move the cursor. The **cursor** is either a blinking underscore character (_) or a small solid rectangle that marks where the next character that you type will appear on the screen. The Num Lock key permits you to alternate between entering numbers and moving the cursor with the numeric keypad. When you turn [Num Lock] on, you can use keys in the numeric keypad to type numbers and other special symbols, such as the decimal point, the plus sign, and the minus sign. When you turn [Num Lock] off, you can use keys in the keypad to move the cursor. This key is an example of a **toggle key**, a kind of on/off key that alternates between two uses each time you press the key.

Enhanced keyboards contain a separate set of cursor-movement keys between the main keyboard and the numeric keypad. Thus, you can leave [Num Lock] on, use the numeric keypad to enter numbers, and use the separate set of cursor-movement keys to move the cursor.

The **editing keys** allow you to change, or modify, what you type. The editing keys include [←] (Backspace), [Del] or [Delete], [Ins] (Insert), and [Esc] (Escape). The Backspace key deletes the character to the left of the cursor, and the Del and Delete keys delete the character at the cursor position. The Ins key is a toggle key that alternates between insert mode and typeover or overwrite modes. In **insert mode**, what you type is inserted at the position of the cursor and characters to the right of the cursor are shifted to the right. In **typeover** or **overwrite mode**, what you type replaces existing text on a character-by-character basis. Depending on the program you use, the Esc key clears or cancels editing changes.

The **function keys** are the keys labeled **F1** through **F10** or **F1** through **F12**. The function keys are located to the left of the main keyboard on a standard keyboard and above the main keyboard on an enhanced keyboard. You use the function keys alone or with the modifier keys [Shift], [Alt], and [Ctrl] to perform specific tasks, such as saving or printing. Programs that you use will assign specific operations to these keys, and these operations might differ among programs. For example, if you press the F1 function key, many programs, but not all, will display **help information**, which assists you with the task you are performing in the program.