# *CMPTR 3rd edition Pinard Solutions Manual*

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# Chapter 1: Introduction to Computers and the Internet

## A Guide to this Instructor's Manual:

We have designed this Instructor's Manual to supplement and enhance your teaching experience through classroom activities and a cohesive chapter summary.

This document is organized chronologically, using the same headings you see in the textbook. Under each heading you will find (in order): Lecture Notes that summarize the section, Exhibits and Boxes found in the section (if any), Teacher Tips, Classroom Activities, and Lab Activities. Pay special attention to teaching tips and activities geared toward quizzing your students, enhancing their critical thinking skills, and encouraging experimentation within the software.

In addition to this Instructor's Manual, CMPTR also provides PowerPoint Presentations, Test Banks, and other supplements to aid in your teaching experience.

**Complement your text and course content with study and practice materials.**

Cengage Learning's CMPTR3 Online brings course concepts to life with interactive learning, study, and exam preparation tools that support the printed textbook. Watch student comprehension soar as your class works with the printed textbook and the textbook-specific Web site. CMPTR3 Online goes beyond the book to deliver what you need!

CMPTR3 Online includes an interactive eBook; auto-graded practice quizzes; audio, online and printable flashcards; conceptual and step-by-step videos; additional assessment activities; and more. Engagement Tracker, a first-of-its-kind tool, monitors student engagement in the course.

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## LO1.1: What is a Computer? (3)

**Lecture Notes:**

- Define a computer as a programmable, electronic device that accepts data, performs operations on

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that data, presents the results, and stores the data or results as needed.

- Use Exhibit 1-1 to discuss the four primary operations of a computer.
- Discuss the difference between:
  - Data and information
  - Hardware and software
  - Computer users and professionals

**Boxes:**

- FYI: Data. (4)

**Exhibits:**

- Exhibit 1-1, Exhibit 1-2

> ***Teacher Tip***
> *Most students today have never known a world without computers. However, most do not know the basics. The concepts of input, processing, output, and storage are new to the students, even though they work with them daily on their computers and their cell phones. Use the FYI on page 4 to help explain data, and talk about how they are turned into information. Use Exhibit 1-2 to show the difference between hardware and software (apps).*

**Classroom Activities:**

1. Critical Thinking Activity: Ask students to think about the cloud computing apps they are currently using. Make a list of them on the board. Have students think about what data is entered when using those apps and how the apps turn data into information.

2. Quick Quiz:
   - When _____ is modified or processed into a meaningful form, it becomes information. (Answer: data)
   - True or False: End users are the people who use computers to perform tasks or obtain information. (Answer: True)

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## LO1.2: Types of Computers (5)

**Lecture Notes:**

- Using the TRENDING box on page 6, introduce students to TINY PCs (embedded computers).
- Discuss the wide variety of computers in use today:
  - Embedded computers
  - Mobile devices
  - Personal computers (PCs)
  - Servers
  - Mainframe computers

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- Supercomputers

**Boxes:**

- TRENDING . . .: Tiny PCs. (6)
- TRENDING . . .: Computers Then & Now. (8)
- FYI: Classifying Computers. (11)
- TRENDING . . .: Green Business Practices. (12)

**Exhibits:**

- Exhibit 1-3, Exhibit 1-4, Exhibit 1-5, Exhibit 1-6, Exhibit 1-7, Exhibit 1-8, Exhibit 1-9, Exhibit 1-10

> ***Teacher Tip***
> *Students use cloud computing daily as they access apps on their cell phones. They probably use Twitter and Facebook; however, many do not know about the other apps available for their PCs such as Google Drive, Windows Office Live, Skype, and backup services like Mozy.*
> *Explain that most electronic devices today have tiny computers embedded within—coffee makers, microwaves, dishwashers, and even cars. See Exhibits 1-3 and 1-7.*
> *Talk about the various types of personal computers in use today including desktops, laptops, notebooks, netbooks, tablets, and even specialty computers such as the Kindle and other-book readers. See Exhibits 1-5 and 1-6.*
> *Take a trip down memory lane with the Trending Box on page 8—Computers Then and Now. Then, talk about the larger computers in use in business from the minicomputer (server), to the mainframe, to the supercomputer.*

**Classroom Activities:**

1. Classroom Discussion: Take a poll among the students to find out how many of them have a desktop computer and how many have a portable computer (laptop, notebook, netbook, or tablet). Have them discuss the pros and cons of each from their experience.

2. Group Activity: Have students make a list of all the computers they use on a regular basis in their work and for pleasure. Have them share their list with the class.

3. Quick Quiz:
   - We are now in the era of the _____ generation of computers. (Answer: fifth)
   - True or False: Mainframe computers are typically located in climate-controlled data centers and are connected to the rest of the company computers via a computer network. (Answer: True)

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## LO1.3: Computer Networks and the Internet (12)

**Lecture Notes:**

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- Define a computer network as a collection of computers and other devices that are connected to enable users to share hardware, software, and data as well as to communicate electronically.
- Discuss the difference between the Internet and the World Wide Web.
- Talk about accessing a network or the Internet.
- Discuss using the email.
- Demonstrate surfing the Web.

**Boxes:**

- FYI: IPv6. (15)
- FYI: Pronouncing Internet Addresses. (16)
- CAUTION: Safe Surfing. (17)
- FYI: Searching the Web. (18)

**Exhibits:**

- Exhibit 1-11, Exhibit 1-12, Exhibit 1-13, Exhibit 1-14, Exhibit 1-15

> ***Teacher Tip***
> *Explain the difference between the Internet and the World Wide Web. Talk about computer networks that are accessible using the Web. Exhibit 1-11 to cite examples of computer networks.*
> *Talk about what is needed to access the Internet—hardware and software. Cover Top Level Domains (TLDs) using Exhibit 1-13. Use Exhibit 1-14 to explain the format of a URL for a Web page. Use Exhibit 1-15 to discuss the various components of the Google Web page in the Chrome Web browser.*
> *Use FYI on page 16 to teach students to pronounce Internet addresses. Then, give students an understanding of how email works.*

**Classroom Activities:**

1. Classroom Discussion: Have students discuss their favorite browsers, search engines, and email providers. How many students are using the email program provided by their ISP? How many students use Internet Explorer just because it came with Windows? How about Bing?

2. Quick Quiz:
   - The _____ TLD is reserved for government organizations. (Answer: .gov)
   - Bing is a _____. (Answer: B)
     A. browser
     B. search engine
     C. retail Web site

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## LO1.4: Computers and Society (18)

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**Lecture Notes:**

- Talk about the benefits and risks of a computer-oriented society.
- Help students understand intellectual property rights and ethics.
- Using Exhibit 1-17 discuss plagiarism.
- Discuss how computers affect health.
- Discuss the environmental concerns of computers.

**Boxes:**

- TRENDING . . .: Ethical Use of Digital Music and Movies. (19)
- CAUTION: Protect Your Computer. (19)
- TRENDING . . .: Ergonomics & Workspace Design. (23)
- TRENDING . . .: Portable Power. (25)

**Exhibits:**

- Exhibit 1-16, Exhibit 1-17, Exhibit 1-18, Exhibit 1-19, Exhibit 1-20

> ***Teacher Tip***
> *Explain to students the benefits of a computer-oriented society as contrasted with their grandparents' time without computers—life without cell phones, PCs, and the Internet. Discuss the risks to privacy posed by computers today. How do these risks affect us, and what can we do to prevent them? This leads into a discussion of ethics, which is covered in the TRENDING Box on page 19. Explain the use of copyrights and what can and cannot be used off the Web without permission. Make students aware of the seriousness of plagiarism using Exhibit 1-17. Finish with a discussion of the health issues surrounding the use of computers.*

**Classroom Activities:**

1. Classroom Discussion: Ask students to discuss their firsthand experiences with privacy issues, spam, viruses, and health issues surrounding computer use. Have them discuss ways to avoid these issues in the future.

2. Quick Quiz:
   - A _____ is a word, phrase, symbol, or design (or a combination of words, phrases, symbols, or designs) that identifies one product or service. (Answer: C)
     A. legal name
     B. copyright
     C. trademark
   - True or False: It is legal to copy songs off the Internet or from another student as long as someone paid for the original copy. (Answer: False)

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## End-of-Chapter Assignments (26)

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| Assignment Name | In Book | In CMPTR3 Online |
|---|---|---|
| Quiz Yourself | • | • |
| Practice It 1-1 | • | • |
| Practice It 1-2 | • | • |
| Practice It 1-3 | | • |
| On Your Own 1-1 | • | • |
| On Your Own 1-2 | | • |

**Review Questions**

Quiz Yourself: Tests student understanding of computer concepts and the Internet.

**Practice It**

Practice It 1-1: Explore the information and activities available on the CMPTR Web site.
Practice It 1-2: Research and discuss alternative solutions to discarding obsolete computer equipment.
Practice It 1-3* (online): Discuss the pros and cons of using technology in your daily life.

**On Your Own**

On Your Own 1-1: Evaluate your computer workspace for changes to make it more comfortable and ergonomic.
On Your Own 1-2* (online): Present your opinion about campus gossip sites.

** Additional assignments and activities available on CMPTR3 Online at [www.cengage.com/login](www.cengage.com/login).*

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## Digital Tools

**Practice It**: Practice It 1-3—Have students discuss the pros and cons of using technology in their daily lives.

**On Your Own**: On Your Own 1-2—Have students discuss their opinion about campus gossip sites.

**Collect StudyBits**: Have students use their highlighted StudyBits from CMPTR3 Online to create notes, rate understanding, and create practice quizzes.

**Quiz**: Have students take the practice quiz to prepare for tests.

**Launch Assessment**: Deploy instructor led assessment from the Assignments Calendar in CMPTR3 Online.

**Videos**: Watch videos related to the topics taught in this chapter in class or assign them for students to

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watch.

## Glossary of Key Terms

- Business ethics (21)
- Carpal tunnel syndrome (CTS) (22)
- Communications (4)
- Computer (3)
- Computer ethics (21)
- Computer network (12)
- Copyright (20)
- Data (4)
- De Quervain's tendonitis (22)
- Desktop computer (7)
- Digital rights management (DRM) software (19)
- Domain name (14)
- Dumb terminal (9)
- e-waste (24)
- Eco-label (24)
- Email (16)
- Email address (16)
- Embedded computer (5)
- End user (4)
- Ergonomics (22)
- Ethics (20)
- Fair use (20)
- Green computing (24)
- Hardware (4)
- Hybrid notebook-tablet (9)
- Hyperlink (13)
- Information (4)
- Input (3)
- Intellectual property rights (20)
- Internet (12)
- Internet addiction (22)
- Internet address (14)
- Internet appliance (9)
- Internet service provider (ISP) (12)
- IP address (14)
- Mainframe computer (11)
- Mobile device (6)
- Netbook (9)

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- Notebook computer (laptop computer) (9)
- Output (3)
- Patent (20)
- Personal computer (PC) (7)
- Plagiarism (21)
- Portable computer (7)
- Process (4)
- Processing (3)
- Program (3)
- Programmer (4)
- Repetitive stress injury (RSI) (22)
- Server (10)
- Smartphone (6)
- Software (4)
- Storage (3)
- Supercomputer (11)
- Surf the Web (17)
- Tablet computer (9)
- Thin client (9)
- Trademark (20)
- Uniform Resource Locator (URL) (14)
- Username (16)
- Virtualization (10)
- Web browser (14)
- Web page (13)
- Web server (13)
- Web site (13)
- World Wide Web (Web) (13)

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# Chapter 1

## PRACTICE IT

### Practice It 1-3

Each new technological improvement usually has a positive side and a negative side.

1. Select a technology you use every day and explain what tasks you use that technology for.
2. What benefits does the technology provide?
3. Are there any risks involved and, if so, how can they be minimized?
4. If you decided not to use this technology because of the possible risks associated with it, how would your life be affected? Can you perform these tasks offline? If so, are there drawbacks of performing them offline?
5. Who should determine if the benefits of a new technology outweigh the potential risks—consumers? The government? Explain your answer.
6. Prepare a one-page summary that answers these questions and submit it to your instructor.

## ON YOUR OWN

### On Your Own 1-2

A recent trend on college campuses today is the use of campus gossip sites, where students can post campus-related news, rumors, and basic gossip. These sites were originally set up to promote free speech and to allow participants to publish comments anonymously without repercussions from school administrators, professors, and other officials. However, they are now being used to post vicious comments about others.

1. What do you think of campus gossip sites?
2. Is it ethical to post a rumor about another individual on these sites? Explain your answer.
3. How would you feel if you read a posting about yourself on a gossip site?
4. What if a posting leads to a criminal act? Who, if anyone, should be held responsible?
5. Prepare a one-page summary that answers these questions and submit it to your instructor.



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