Technology in Action

Chapter 1
Why Computers Matter to You:
Becoming Computer Literate
Chapter Topics

• Computer literacy
• Computers and careers
• Technology challenges
Why Become Computer Literate?

• Benefits of learning about computers include:
  – Being a knowledgeable consumer
  – Using current and future technology
  – Increasing your career options
  – Understanding ethical and legal implications
Becoming a Savvy Computer User and Consumer

• Avoid hackers and viruses
• Protect your privacy
• Understand the real privacy and security risks
• Use the Internet wisely
Becoming a Savvy Computer User and Consumer

• Avoid online annoyances
• Maintain your computer
• Make good purchase decisions
• Integrate the latest technology
Computers in the Workplace

• Information technology (IT) involves:
  – Information handling
  – Information retrieval
  – Computers
  – Telecommunications
  – Software deployment

• The seven fastest-growing occupations are computer related
Computers in Your Career?

• Computers are used in:
  – Retail
  – Arts
  – The military
  – Law enforcement
  – Agriculture
  – More
Computers in Business, Retail, and Delivery

• Data mining
• Package tracking
• Forecasting models
Computers in the Arts

- Create Web sites
- Digitize dance movements
- Produce computer-generated art
Computers in Gaming

• Get a job doing:
  – Video game design
  – Programming
  – 3D animation
Computers in Education

• Instructional software programs
• Distance education
• Computerized research
• The Internet
• Virtual field trips
• Museum podcasts and multimedia tours
Computers in Law Enforcement

- Search databases
- Employ computer forensics
- Training law enforcement officers to be more effective
Digital Home

• You can control home systems from your computer and via the Internet:
  – Entertainment
  – Security
  – Lights
  – Heating and cooling
  – Appliances
Digital Home: Components

• Media computer with:
  – TV tuner
  – Blu-ray, DVD, and/or CD player and recorder
  – Network adapter

• Network

• “Internet-ready” digital television

• Universal remote
Computers in the Military

• Electronic communications
• Military career planning
• High-technology projects
Computers in Agriculture

• Programs manage complex farming business and information systems
• RFID tags track and record animals in case of diseases
• Computerized sensors monitor conditions and activate equipment to protect crops
Computers in Automotive Technology

- Environmental trends and government regulations
- Computerized sensors and CPU systems in vehicles
- Consumer demand for computerized subsystems
Computers in Medicine

- Patient simulators and surgical robots
- Digital modeling of human anatomy
Biomedical Implants

• Technological solutions to physical problems
• Personal ID chips
  – Moral implications
Computers in the Sciences

- Supercomputers create simulations in
  - Astronomy
  - Meteorology
  - Archaeology
Computers in Sports

- Improved training
- Timing and scorekeeping
- Data storage and statistics
Nanotechnology

- Nano: Prefix stands for one billionth
- Nanoscience: Study of molecules and nanostructures
- Nanostructures: Range in size from 1 to 100 nanometers
- Nanotechnology: Science of the use of nanostructures
Computers in Psychology

• Affective computing: Computing that relates to emotion or tries to influence emotion
  – Emotional social prosthesis (ESP) device
• Biped (two-legged) robots
Challenges Facing a Digital Society

- Privacy risks
- Personal data collection
- E-mail monitoring
- Copyright infringement
- Reliance on computers for security
- Digital divide
Chapter 1 Summary Questions

• What does it mean to be “computer literate”? 
Chapter 1 Summary Questions

• How does being computer literate make you a savvy computer user and consumer?
Chapter 1 Summary Questions

• How can becoming computer literate help you in a career?
Chapter 1 Summary Questions

• How can becoming computer literate help you understand and take advantage of newly emerging careers?
Chapter 1 Summary Questions

• How does becoming computer literate help you deal with the challenges associated with technology?