

CHAPTER 1—Introduction to Computers, the Internet and Visual C#

Test Item File

1.1 Introduction

1. Computers process data, using sets of instructions called _____.

- a) softgoods
- b) computer programs
- c) recipes
- d) hardware

Answer: b

Section 1.2 Computers and the Internet in Industry and Research

1. Which of the following statements is *false*?

- a. Cloud computing allows you to use software, hardware and information stored on remote computers via the Internet and available on demand—rather than having it stored on your personal computer.
- b. Electronic health records enable health care providers to share patients' information across a secure network, improving patient care, reducing the probability of error and increasing overall efficiency of the health care system.
- c. Global Positioning System (GPS) devices a single satellite to retrieve location-based information.
- d. The Human Genome Project was founded to identify and analyze the 20,000+ genes in human DNA.

ANS: c. Global Positioning System (GPS) devices use a *network of satellites* to retrieve location-based information.

2. Which of the following statements is *false*?

- a. Cloud computing allows you to use software, hardware and information stored in the “cloud”—i.e., accessed on remote computers via the Internet and available on demand—rather than having it stored on your personal computer.
- b. Cloud computing services allow you to increase or decrease resources to meet your needs at any given time, so they can be more cost effective than purchasing expensive hardware to ensure that you have enough storage and processing power to meet your needs at their peak levels.
- c. Businesses using cloud computing services must still manage the applications, which can be costly.
- d. Both (a) and (c).

ANS: c. Businesses using cloud computing services must still manage the applications, which can be costly. Actually, using cloud computing services shifts the burden of managing applications from the business to the service provider, saving businesses money.

3. Microsoft's _____ is a cloud computing platform that allows you to develop, manage and distribute your apps in the cloud.

- a) Common Language Runtime
- b) Windows Azure
- c) virtual machine
- d) Windows 8

Answer: b

4. Which of the following statements is *false*?

- a) Cloud computing allows you to use software, hardware and information stored in the “cloud”—i.e., accessed on remote computers via the Internet and available on demand—rather than having it stored on your personal computer.
- b) Cloud computing services allow you to increase or decrease resources to meet your needs at any given time, so they can be more cost effective than purchasing expensive hardware to ensure that you have enough storage and processing power to meet your needs at their peak levels.
- c) Businesses using cloud computing services must still manage the applications, which can be costly.
- d) Both (a) and (c).

Answer: c. Actually, using cloud computing services shifts the burden of managing applications from the business to the service provider, saving businesses money.

1.3 Hardware and Software

1. The cost of computing power and communications bandwidth has been

- a) about the same each year.
- b) going up.
- c) going down.
- d) undetermined.

Answer: c

1.3.1 Moore's Law

1. _____ Law states that every year or two, the computing power of computers doubles without any increase in price.

- a) Gate's
- b) Moore's
- c) Henderson's
- d) None of the above.

Answer: b

1.3.2 Computer Organization

1. Every computer can be divided into 6 basic units. They are:
- a) monitor, mouse, keyboard, hard drive, processor and disk drives.
 - b) input, output, primary storage, secondary storage, memory and ALU.
 - c) input, output, memory, ALU, CPU and secondary storage.
 - d) input, output, primary storage, secondary storage, CPU, memory.

Answer: c

2. The purpose of the ALU is:

- a) to store permanent data.
- b) to store temporary data.
- c) to cool the computer down and prevent overheating.
- d) to perform basic math and logical comparisons for the computer.

Answer: d

3. (True/False) Input devices allow the computer to receive data. They are things such as a keyboard or mouse.

Answer: True.

4. (True/False) The CPU is the heart of the computer. It tells the computer when input is received and when output should be displayed. It also helps in the storage of data to memory.

Answer: True.

5. (True/False) Secondary storage stores data for large amounts of time.

Answer: True.

6. (True/False) Logical decisions are made by the CPU.

Answer: False. Logical decisions are made by the Arithmetic Logic Unit (ALU).

1.4 Data Hierarchy

1. Which of the following statements is *false*?

- a. The impressive functions performed by computers involve only the simplest manipulations of 1s and 2s.
- b. ASCII is a popular subset of Unicode.
- c. Fields are composed of characters or bytes.
- d. On some operating systems, a file is viewed simply as a sequence of bytes.

ANS: a. The impressive functions performed by computers involve only the simplest manipulations of 1s and 2s . It's 1s and 0s.

2. Which of the following data items are arranged from the smallest to the largest in the data hierarchy.

- a. records, characters, fields, bits, files.

- b. bits, files, fields, records, characters.
- c. fields, characters, bits, files, records.
- d. bits, characters, fields, records, files.

ANS: d. bits, characters, fields, records, files.

3. Binary code is actually:

- a) a complex programming language.
- b) a series of 0's and 1's.
- c) machine language instructions.
- d) a series of characters representing the numbers 0 to 9.

Answer: b

4. Computer circuitry is able to:

- a) get the value of a bit
- b) examine the value of a bit
- c) reverse the value of a bit
- d) All of the above

Answer: d

5. The smallest data item in a computer is the _____.

- a) bit
- b) byte
- c) kilobyte
- d) None of the above.

Answer: a

6. One byte is composed of:

- a) 2 bits
- b) 4 bits
- c) 8 bits
- d) 10 bits

Answer: c

7. An example of when a file should *not* be used is:

- a) to save the status of a video game for another session.
- b) to save the value of a variable at runtime.
- c) to log errors in the execution of a program.
- d) these are all good examples of when files should be used.

Answer: b

8. In a _____ file, a record typically stored in order by a record-key field.

- a) chronological
- b) non-sequential

- c) sequential
- d) record-key

Answer: c

9. (True/False) To distinguish fields or records there has to be one that is different from every other, this is called the record key.

Answer: True.

10. (True/False) Characters in C# are Unicode characters, each represented by one byte.

Answer: False. A character in C# is represented by two bytes.

1.5 Machine Languages, Assembly Languages and High-Level Languages

1. The order of simplicity to a human of the three basic types of languages is: (easiest to hardest)

- a) high-level, assembly, machine
- b) assembly, machine, high-level
- c) machine, high-level, assembly
- d) machine, assembly, high-level

Answer: a

2. Machine languages _____.

- a) are machine dependent.
- b) are universal between all machines.
- c) consist of numbers and letters.
- d) need to be translated in order for the machine to understand commands.

Answer: a

3. (True/False) An assembler converts assembly language programs into machine language.

Answer: True

4. (True/False) High-level computer languages are easily understood by a computer without any need of translation.

Answer: False. They are easily understood by humans, but must be converted into machine language in order for a computer to understand it.

1.6 Object Technology

1. The color, size, weight and speed of an object are examples of its _____.

- a) attributes.

- b) behaviors.
- c) classes.
- d) requirements.

Answer: a

2. Almost any _____ can be reasonably represented as an object.

- a) verb
- b) behavior
- c) adjective
- d) noun

Answer: d

3. Objects normally are not allowed to know how other objects are implemented. This is called _____.

- a) incarceration
- b) information hiding
- c) blindfolding
- d) inheritance

Answer: b

1.7 Internet and World Wide Web

1. The W3C is an organization that:

- a) maintains and runs the internet.
- b) removes junk and broken links from the web.
- c) developed e-mail.
- d) helps to develop web technologies.

Answer: d

2. The _____ is a collection of hardware and software associated with the Internet that allows computer users to locate and view multimedia-based documents on almost any subject.

- a) HyperText Markup Language
- b) HyperText Transfer Protocol
- c) World Wide Web
- d) CERN

Answer: c

3. (True/False) One of W3C's primary goals was to make the web universally accessible to everyone regardless of disabilities, language or culture.

Answer: True.

1.8 C#

1. Which of the following is *true*: C#

- a) is object oriented.

- b) contains a powerful class library.
- c) is *not* limited to web-based applications.
- d) All of the above.

Answer: d

2. Visual Basic evolved from the _____ programming language.

- a) assembly
- b) BASIC
- c) DOS
- d) Java.

Answer: b

3. What was the most important capability of C++ that C did not provide?

- a) networking technology
- b) data type technology
- c) object-oriented technology
- d) adding dynamic content to web pages.

Answer: c

4. (True/False) C# was developed specifically for the .NET Framework.

Answer: True.

5. (True/False) Web-based applications can be distributed to a great variety of devices from cell phones to desktop computers using the .NET platform.

Answer: True.

6. (True/False) The integration of software components from various languages has been relatively simple.

Answer: False. The integration of software components from various languages has been difficult. .NET now makes such integration relatively easy.

7. (True/False) C# applications can interact over the Internet.

Answer: True.

8. (True/False) C# is an object oriented language that is a hybrid of C, C++ and Java.

Answer: True

9. (True/False) C++ “spruces up” C with object-oriented programming capabilities.

Answer: True.

10. (True/False) Java enables you to write programs that will run on a great variety of computer systems and computer-control devices.

Answer: True.

11. (True/False) C# is an object oriented language that has roots in C, C++ and Java.

Answer: True

1.9 Microsoft's .NET

1. Part of the .NET Initiative is Microsoft's _____ technology, which enables you to create web applications:

- a) class library
- b) VM
- c) CLR
- d) ASP.NET

Answer: d

2. Microsoft's .NET Framework _____.

- a) executes applications.
- b) contains a class library
- c) provides many capabilities for building Visual Basic applications.
- d) All of the above.

Answer: d

3. (True/False) Developers can create .NET applications only in Visual Basic.

Answer: False. Developers can create a .NET application in any .NET-compatible language.

1.10 Microsoft Windows® Operating System

1. In the mid-1980s, Microsoft developed the _____ operating system based on a graphical user interface with buttons, textboxes, menus and other graphical elements.

- a) Unix
- b) Macintosh
- c) Linux
- d) Windows

Answer: d

2. _____ are software systems that make using computers more convenient for users, application developers and system administrators.

- a) Operating systems
- b) Applications
- c) GUIs
- d) None of the above.

Answer: a

1.11 Visual Studio Integrated Development Environment

1. Visual C# programs are created using Microsoft's Visual Studio—a collection of software tools called a(n) _____.

- a) operating system
- b) Integrated Programming Environment

- c) Integrated Development Environment
- d) Class Library.

Answer: c

1.12 Painter Test-Drive in Visual Studio Community

(No questions.)