**Chapter 1: Answers to the Review Questions**

**Multiple Choice**

1. b

2. a

3. d

4. b

5. c

6. a

7. c

8. b

9. a

10. a

11. d

12. b

13. c

14. b

15. c

16. a

17. b

18. d

19. b

20. b

21 c

22. a

23. d

24. a

25. b

26. b

27. c

28. d

29. b

30. a

31. b

32. d

33. a

34. b

35. a

36. c

**True or False**

1. False

2. True

3. True

4. False

5. True

6. False

7. True

8. False

9. False

10. False

11. False

12. True

**Short Answer**

1. Because without it, the computer could not run software.

2. A bit that is turned on represents 1, and a bit that is turned off represents 0.

3. A digital device

4. Keywords

5. mnemonics

6. A compiler is a program that translates a high-level language program into a separate machine language program. The machine language program can then be executed any time it is needed. An interpreter is a program that both translates and executes the instructions in a high-level language program. As the interpreter reads each individual instruction in the program, it converts it to a machine language instruction and then immediately executes it. Because interpreters combine translation and execution, they typically do not create separate machine language programs.

7. Operating system

8. Pseudocode is an informal language used to write out the steps of an algorithm. A flowchart is a diagram that graphically depicts the steps of an algorithm.

9. In a text-based environment, such as a command line interface, programs determine the order in which things happen.

10. A class specifies the data that an object can hold (the object’s fields and properties), and the actions that an object can perform (the object’s methods).

11. No, because C# provides only the basic keywords and operators that you need to construct a program. In addition to the C# language, you need the .NET Framework. The .NET Frameworkis a collection of classes and other code that can be used, along with a programming language such as C#, to create programs for the Windows operating system.

12. (1) The Toolbox

(2) The Designer window

(3) The Solution Explorer

(4) The Properties window

13. The Toolbox is a window that allows you to select the controls that you want to use in an application’s user interface.

14. You can access the documentation for Visual Studio by Clicking Help on the menu bar, and then selecting View Help. (Or, you can press Ctrl+F1, and then press V on the keyboard.) The MSDN library provides complete documentation for Visual C#, as well as the other programming languages included in Visual Studio.

15. If Visual Studio is already running, you can perform the following steps to open an existing project:

* Click *File* on the Visual Studio menu bar, then select *Open*, then select *Project*/*Solution..*.
* The *Open* *Project* window will appear. Navigate to the desired solution folder, select the solution file, and click *Open*.

In Visual C# Express, perform the following steps to open an existing project:

* Click *File* on the Visual Studio menu bar, then select *Open Project..*.
* The *Open* *Project* window will appear. Navigate to the desired solution folder, select the solution file, and click *Open*.

16. Right-click Form1.cs in the Solution Explorer, and then click View Designer in the pop-up menu.

**Exercises**

**1. Decimal Binary**

11 1011

65 1000001

100 1100100

255 11111111

**2. Binary Decimal**

1101 13

1000 8

101011 43

**3.** Here is an example: The ASCII codes for the name Marty are:

M = 77

a = 97

r = 114

t = 226

y = 121

**4.** a. The three test scores

b. It will add the three test scores, and divide the sum by three.

c. It will display the result of the calculation performed in b.