

Chapter 1: An Introduction to Visual Basic 2012

TRUE/FALSE

1. When you click the Auto Hide button on a window, the window is minimized and appears as a tab on the edge of the IDE.

ANS: T PTS: 1 REF: 15 OBJ: A - Manage windows in IDE
MSC: The Splash Screen Application
2. A source file contains a list of projects in a solution.

ANS: F PTS: 1 REF: 17 OBJ: A - Manage windows in IDE
MSC: The Splash Screen Application
3. The Properties window lists the names of the files included in the application you are creating.

ANS: F PTS: 1 REF: 18 OBJ: A - Set properties of object
MSC: The Splash Screen Application
4. When an object is instantiated (created), each property must be assigned a value by the programmer.

ANS: F PTS: 1 REF: 18 OBJ: A - Set properties of object
MSC: The Splash Screen Application
5. A class definition is a block of code that specifies or defines an object's appearance and behavior.

ANS: T PTS: 1 REF: 20 OBJ: A - Set properties of object
MSC: Properties of a Windows Form
6. If a solution is already open in the IDE, you are given the option to close the current solution before another solution is opened.

ANS: T PTS: 1 REF: 24
OBJ: A - Close and open existing solution
MSC: Opening an Existing Solution
7. The Label tool is an appropriate control to use when you do not want the user to modify data.

ANS: T PTS: 1 REF: 30 OBJ: B - Add a control to form
MSC: The Label Tool
8. The Project Designer window allows you to specify which form will display when the application starts.

ANS: T PTS: 1 REF: 36
OBJ: B - Open Project Designer window
MSC: Starting and Ending an Application
9. Actions performed by the user such as clicking, double-clicking, and scrolling are known as events.

ANS: T PTS: 1 REF: 38

OBJ: B - Enter code in Code Editor window

MSC: The Code Editor Window

10. The title bar on a form cannot be removed from splash screen applications.

ANS: F PTS: 1 REF: 51

OBJ: C - Remove/disable Minimize, Maximize, and Close buttons

MSC: The MinimizeBox, MaximizeBox, and ControlBox Properties

MULTIPLE CHOICE

1. A user ____ is what the user sees and interacts with while an application is running.
- a. service
 - b. profile
 - c. splash
 - d. interface

ANS: D PTS: 1 REF: 13

MSC: The Splash Screen Application

2. A(n) ____ is a container that stores the projects and files for an entire application.
- a. window
 - b. solution
 - c. interface
 - d. package

ANS: B PTS: 1 REF: 13

OBJ: A - Create Visual Basic 2012 Windows application

MSC: The Splash Screen Application

3. The Windows ____ window allows you to create the graphical user interface for your application.
- a. Property
 - b. Solution Designer
 - c. Designer
 - d. Form Designer

ANS: D PTS: 1 REF: 16 OBJ: A - Manage windows in IDE

MSC: The Splash Screen Application

4. All objects in an object-oriented program are instantiated (created) from a ____.
- a. project
 - b. form
 - c. class
 - d. property

ANS: C PTS: 1 REF: 17 OBJ: A - Manage windows in IDE

MSC: The Splash Screen Application

5. The Solution Explorer window ____.
- a. displays a list of the projects contained in the current solution
 - b. displays data connections and servers
 - c. displays items that you can use when creating a project
 - d. displays the classes, methods, and properties included in a solution

ANS: A PTS: 1 REF: 17 OBJ: A - Manage windows in IDE

MSC: The Splash Screen Application

6. Each object has a set of attributes, called ____, that determine the object's appearance and behavior.
- a. codes
 - b. events
 - c. global settings
 - d. properties

ANS: D PTS: 1 REF: 18 OBJ: A - Set properties of object

MSC: The Splash Screen Application

7. The position of the form on the screen when an application first starts is controlled by setting the ____ property.
- a. Position
 - b. Size
 - c. Location
 - d. StartPosition

ANS: D PTS: 1 REF: 21 OBJ: A - Set properties of object
MSC: Properties of a Windows Form

8. A ____ is the general shape of the characters in the text.
- a. property
 - b. splash
 - c. format
 - d. font

ANS: D PTS: 1 REF: 22 OBJ: A - Set properties of object
MSC: Properties of a Windows Form

9. When you click the ellipsis (...) button in the Settings box of the Font property, ____.
- a. a list of font styles appears
 - b. a color palette appears
 - c. a dialog box opens
 - d. the attribute is removed

ANS: C PTS: 1 REF: 22 OBJ: A - Set properties of object
MSC: Properties of a Windows Form

10. To size a form using the keyboard, you can select the form and press and hold the ____ key(s), and then press one of the arrow keys on the keyboard.
- a. Shift
 - b. Ctrl
 - c. Alt
 - d. Ctrl+Shift

ANS: A PTS: 1 REF: 22 OBJ: A - Set properties of object
MSC: Properties of a Windows Form

11. Which of the following is an example of an appropriate name for a control?
- a. BtnMessage
 - b. btnExit
 - c. labelmessage
 - d. housepicturebox

ANS: B PTS: 1 REF: 21 OBJ: A - Set properties of object
MSC: Properties of a Windows Form

12. To verify that a solution has been closed, you can look in the ____.
- a. Class View
 - b. Server Explorer
 - c. Start Page
 - d. Solution Explorer

ANS: D PTS: 1 REF: 24 OBJ: A - Close and open existing solution MSC: Closing the Current Solution

13. A Visual Basic 2012 solution file will have a(n) ____ file extension.
- a. .net
 - b. .app
 - c. .frm
 - d. .sln

ANS: D PTS: 1 REF: 24 OBJ: A - Close and open existing solution
MSC: Opening an Existing Solution

14. The Toolbox window ____.
- a. displays the names of projects and files included in a solution
 - b. displays data connections and servers
 - c. displays the tools you use when creating your application's interface

d. displays the classes, methods, and properties included in a solution

ANS: C PTS: 1 REF: 29 OBJ: B - Add a control to form
MSC: The Toolbox Window

15. A label control's ____ property determines the value that appears inside the control.
- a. Caption
 - b. Label
 - c. Text
 - d. Values

ANS: C PTS: 1 REF: 32
OBJ: B - Set properties of label, picture box, and button controls
MSC: The Label Tool

16. The location of a control on the screen can be modified by changing the X and Y properties measured in pixels. The Y value is measured from the ____ border.
- a. left
 - b. right
 - c. top
 - d. bottom

ANS: C PTS: 1 REF: 32
OBJ: B - Set properties of label, picture box, and button controls
MSC: The Label Tool

17. The location of a control on the screen can be modified by changing the X and Y properties measured in pixels. The X value is measured from the ____ border.
- a. left
 - b. right
 - c. top
 - d. bottom

ANS: A PTS: 1 REF: 32
OBJ: B - Set properties of label, picture box, and button controls
MSC: The Label Tool

18. To align two or more selected controls along their left, right, top, or bottom borders, you would use the ____ menu.
- a. Edit
 - b. Format
 - c. Align
 - d. View

ANS: B PTS: 1 REF: 33 OBJ: B - Select multiple controls
MSC: Using the Format Menu

19. System.Windows.Forms.Button indicates that the control is an instance of the ____ class.
- a. System
 - b. Windows
 - c. Forms
 - d. Button

ANS: D PTS: 1 REF: 31
OBJ: B - Set properties of label, picture box, and button controls
MSC: The Label Tool

20. The ____ function key will start a Visual Basic 2012 application in the IDE.
- a. F2
 - b. F3
 - c. F4
 - d. F5

ANS: D PTS: 1 REF: 37 OBJ: B - Start and end application
MSC: Starting and Ending an Application

21. When an application is started, Visual Basic 2012 will automatically create a file that has the project name and a(n) ____ file extension.

- a. .dll
- b. .exe
- c. .sln
- d. .suo

ANS: B PTS: 1 REF: 37 OBJ: B - Start and end application
MSC: Starting and Ending an Application

22. To start an application using the menu bar, you click ____ and then click Start Debugging.
- a. DEBUG
 - b. PROJECT
 - c. VIEW
 - d. BUILD

ANS: A PTS: 1 REF: 37 OBJ: B - Start and end application
MSC: Starting and Ending an Application

23. The file within a Visual Basic application that can be run outside of the IDE has a(n) ____ file extension.
- a. .sln
 - b. .vb
 - c. .exe
 - d. .src

ANS: C PTS: 1 REF: 37 OBJ: B - Run project's executable file
MSC: Starting and Ending an Application

24. The set of Visual Basic instructions that tells an object how to behave after an action by the user (such as clicking a button) is referred to as a(n) ____.
- a. sub-program
 - b. event procedure
 - c. object function
 - d. subroutine

ANS: B PTS: 1 REF: 40 OBJ: B - Enter code in Code Editor window
MSC: The Code Editor Window

25. You enter the procedure's code in the ____ window.
- a. Code Editor
 - b. Server
 - c. Solution
 - d. Designer

ANS: A PTS: 1 REF: 40 OBJ: B - Enter code in Code Editor window
MSC: The Code Editor Window

26. When you want the application to end when the user clicks the Exit button, you write the following code: ____.
- a. Me.Stop()
 - b. Me.Close()
 - c. Me.Terminate()
 - d. Me.End()

ANS: B PTS: 1 REF: 40 OBJ: B - Use Me.Close() instruction
MSC: The Code Editor Window

27. A(n) ____ is a block of code that performs a specific task.
- a. event
 - b. form
 - c. class
 - d. sub procedure

ANS: D PTS: 1 REF: 40 OBJ: B - Enter code in Code Editor window
MSC: The Code Editor Window

28. A(n) ____ is a predefined procedure that you can call (or invoke) when needed.
- a. method
 - b. object
 - c. class
 - d. event

ANS: A PTS: 1 REF: 40

OBJ: B - Enter code in Code Editor window

MSC: The Code Editor Window

29. Which of the following is a true statement?
- The `Me.Close()` instruction should be coded in a timer control's Tick event procedure if an Exit button is not provided.
 - By default, the size of a form cannot be changed by a user while an application is running.
 - The title bar cannot be removed from an application.
 - The Minimize button can be removed from the title bar without removing the Maximize button from the title bar.

ANS: A PTS: 1 REF: 50, 51

OBJ: C - Prevent user from sizing form | C - Remove/disable Minimize, Maximize, and Close buttons
MSC: Using the Timer Tool

30. When a timer control is added to a form, it appears ____.
- at the location you placed the mouse pointer on the form
 - on the Title bar
 - in the component tray
 - in the lower-right corner of the form

ANS: C PTS: 1 REF: 48

OBJ: C - Set properties of timer control MSC: Using the Timer Tool

Case-Based Critical Thinking Questions

Case 1

You have been hired to develop an application for Ridgeline Realty, a local real estate agency. The owner wants the application to display an image of the main office and the company logo on the screen for a short period of time before the main application begins.

31. The most effective way to accomplish this task is to create a(n) ____.
- PictureBox control
 - splash screen
 - Label control
 - Exit button

ANS: B PTS: 1 REF: 9 TOP: Critical Thinking

MSC: The Splash Screen Application

32. To create the Windows application for Ridgeline, you will first need to ____.
- auto-hide any windows you do not need to use
 - set the StartPosition for the form
 - create a New Project and determine the directory for the solution
 - code the Exit button

ANS: C PTS: 1 REF: 13

OBJ: A - Create Visual Basic 2012 Windows application TOP: Critical Thinking

MSC: The Splash Screen Application

33. An example of a valid value for the form's Name property is ____.
- form Ridgeline
 - formridgeline
 - Ridgeline
 - frmRidgeline

ANS: D PTS: 1 REF: 21

OBJ: A - Set properties of an object TOP: Critical Thinking

MSC: Properties of a Windows Form

34. Anyone using the application does not need to change the size of the form, so you must set the FormBorderStyle property to ____.
- a. FixedSingle
 - b. Sizable
 - c. Zero
 - d. False

ANS: A PTS: 1 REF: 50
OBJ: C - Prevent user from sizing form TOP: Critical Thinking
MSC: Setting the FormBorderStyle Property

35. If a timer control is used to display the office image and company logo for five seconds, you will need to set the timer's Interval property to ____.
- a. 5
 - b. 50
 - c. 500
 - d. 5000

ANS: D PTS: 1 REF: 49
OBJ: C - Set properties of timer control TOP: Critical Thinking
MSC: Using the Timer Tool

SHORT ANSWER

1. Explain the difference between a solution and a project.

ANS:

A solution is the container that stores the projects and files for an entire application. It can contain several projects. A project is also a container, but it stores only the files associated with that particular project.

PTS: 1 REF: 13 OBJ: A - Create Visual Basic 2012 Windows application
MSC: The Splash Screen Application

2. What does it mean when an asterisk (*) sometimes appears on the Windows Form Designer window? When it appears, what should you do to remove it?

ANS:

The asterisk indicates that a change was made to the form since the last time it was saved. It is a good idea to save the current solution often so that you will not lose a lot of your work if the computer loses power. You should click Save All to save all files in the solution, and this will remove the asterisk that appears on the designer window's tab.

PTS: 1 REF: 23 OBJ: A - Save solution
MSC: Saving a Solution

3. What is the Windows Form Designer window? Describe how it is used in Visual Studio 2012.

ANS:

The Windows Form Designer window is where you create (or design) your application's graphical user interface. It is used to create the Windows Form object, or form. The form is the foundation of the user interface in a Windows application. You use the Windows Form Designer window to create the form and add all of the necessary objects to the form that are needed for the application to work properly.

PTS: 1 REF: 16 OBJ: A - Manage windows in IDE
MSC: The Splash Screen Application

4. What is the Solution Explorer window? Describe how it is used in Visual Studio 2012.

ANS:

The Solution Explorer window displays a list of the projects contained in the current solution and the items contained in each project. You can view all of the files within the current solution. You can use the Solution Explorer window to determine if a solution is open or closed. You can also use the Solution Explorer window to open a form file in the Windows Form Designer window.

PTS: 1 REF: 17, 24

OBJ: A - Manage windows in IDE | A - Close and open existing solution

MSC: The Splash Screen Application

5. What is the Properties window? Describe how it is used in Visual Studio 2012.

ANS:

The Properties window lists the properties, or attributes, of an object. Each object used in an application has a set of attributes that determine its appearance and behavior. The attributes are called properties, and each property has a default value assigned to it. The Properties window details the name of each property and the related value that can be applied to an attribute of an object.

PTS: 1 REF: 18 OBJ: A - Manage windows in IDE

MSC: The Splash Screen Application

6. What is the Toolbox window? Describe how it is used in Visual Studio 2012.

ANS:

The Toolbox window, known simply as the toolbox, contains the tools you use when creating your application's user interface. Each tool represents a class from which an object, such as a button or text box, can be instantiated. The instantiated objects, called controls, are placed on the form. You click on a tool in the toolbox, and drag and drop it on a location on the form.

PTS: 1 REF: 29 OBJ: B - Add a control to form

MSC: The Toolbox Window

7. What is a label control? Explain how it is used on a form.

ANS:

A label control is a control that contains descriptive text. It is often used to display text that the user is not allowed to edit while an application is running.

PTS: 1 REF: 30

OBJ: B - Set properties of label, picture box, and button controls

MSC: The Label Tool

8. Describe the use of the Format menu and controls on the form.

ANS:

The Format menu provides options for manipulating the controls on the form. It provides alignment and sizing options that can be used on more than one control at the same time. You must select the controls that need to be aligned or sized before using the Format menu. The first control that is selected is the control that the remaining controls will be aligned or sized to match.

PTS: 1 REF: 33 OBJ: B - Select multiple controls

MSC: Using the Format Menu

9. What is a button control? Provide two examples of common button controls found in Windows applications.

ANS:

A button control is used on a form to perform an immediate action when clicked. Two common examples of button controls are the Exit button and the OK button.

PTS: 1

REF: 36

OBJ: B - Set properties of label, picture box, and button controls

MSC: The Button Tool

10. What is a startup form? Describe the steps used to define it for an application.

ANS:

A startup form is the form that the computer automatically displays each time the application is started. To set the startup form for an application, make sure the Solution Explorer window is displayed. Right-click My Project and then click Open to open the Project Designer window. Click on the Application tab to set or change the name of the startup form.

PTS: 1

REF: 36

OBJ: B - Open Project Designer window

MSC: Starting and Ending an Application

11. How is a timer control used in an application? Provide one example.

ANS:

A timer control is used to process code at one or more regular intervals. Timer controls are often used when it's necessary to have something occur for a set amount of time in an application.

PTS: 1

REF: 48

OBJ: C - Set properties of timer control

MSC: Using the Timer Tool

12. If a control is deleted from a form, is the related code for the control also deleted? Explain.

ANS:

No, deleting a control from a form does not delete the control's code, which remains in the Code Editor window. You first must select the control to be deleted on the form and press the Delete key to remove it from the form. You then must open the Code Editor window, select the code associated with the deleted control, and press the Delete key to delete the code.

PTS: 1

REF: 49

OBJ: C - Delete control from form | C - Delete code from Code Editor window

MSC: Using the Timer Tool

13. List the properties of a form that can be used to remove three standard title bar elements, including the title bar.

ANS:

1. MinimizeBox property
2. MaximizeBox property
3. ControlBox property

PTS: 1

REF: 50, 51

OBJ: C - Remove/disable Minimize, Maximize, and Close buttons
MSC: The MinimizeBox, MaximizeBox, and ControlBox Properties

14. Why should you print a copy of your application's code and user interface?

ANS:

The printout can serve as documentation. It can help you understand and maintain the application in the future.

PTS: 1 REF: 51 OBJ: C - Print code and interface
MSC: Printing the Application's Code and Interface

15. Define a source file and describe how it relates to a form file. Provide an example of a source file name, including the appropriate file extension.

ANS:

A source file is a file that contains program instructions called code. The source file for a form is referred to as a form file because it contains the code associated with a form. An example of a source file name is Form1.vb.

PTS: 1 REF: 17 MSC: The Splash Screen Application