Chapter 9  Additional Controls and Objects

Section 9.1  List Boxes and Combo Boxes

1. Which of the following statements will remove all items from the list box?
   (A) lstBox.Items.RemoveAll
   (B) lstBox.Clear()
   (C) lstBox.Items.Clear()
   (D) For i As Integer = 1 to lstBox.Items.Count
       lstBox.Items.RemoveAt(i)
   Next
   C

2. Which of the following controls has a drop down arrow and an attached text box that allows users to type selections?
   (A) ListBox
   (B) Simple ComboBox
   (C) DropDownList ComboBox
   (D) DropDownList ComboBox
   C

3. Which of the following controls does not have a DropDownStyle property that must be specified at design time?
   (A) ListBox
   (B) Simple ComboBox
   (C) DropDownList ComboBox
   (D) DropDownList ComboBox
   A

4. The statement lstBox.Items.RemoveAt(lstBox.SelectedIndex) deletes the item currently highlighted in lstBox. (T/F)
   T

5. In a Simple combo box, the list is always visible. (T/F)
   T

6. If no item in a combo box is selected, the value of lstBox.SelectedIndex is 0. (T/F)
   F

7. The value of cboBox.Text is the currently highlighted item. (T/F)
   T
8. For a list box named lstBox, the following statement will delete the first occurrence of the value of *num* from its list. (T/F)
   ```csharp
   lstBox.Items.RemoveAt(num)
   ```
   F

9. For a list box named lstBox, the following statement will delete from its list the item whose index is the value *num*. (T/F)
   ```csharp
   lstBox.Items.RemoveAt(num)
   ```
   T

10. With a simple combo box, the list drops down when the user clicks on the arrow and then disappears after a selection is made. (T/F)
    F

11. The DropDownStyle property of a combo box must be set at design time. (T/F)
    T

12. Combo boxes have most of the same properties, events, and methods as list boxes. (T/F)
    T

13. Which of the following expressions refers to the contents of the last row of the combo box?
    (A) `cboBox.Items(lstBox.Items.Count)`
    (B) `cboBox.Items(lstBox.Items.Count - 1)`
    (C) `cboBox.Items(Count)`
    (D) `cboBox.Items.Count`
    B

14. Which of the following expressions refers to the contents of the first row of the combo box?
    (A) `cboBox.Items(0)`
    (B) `cboBox.Items(1)`
    (C) `cboBox.Items.First`
    (D) `cboBox.Items(First)`
    A

15. Which of the following is the default setting for a combo box's DropDownStyle property?
    (A) List
    (B) Simple
    (C) DropDown
    (D) DropDownList
    C

16. A list that has dropped down disappears when the user clicks on an item or presses the Enter key. (T/F)
    T
17. The value of `cboBox.Text` is the contents of the text box at the top of the combo box. (T/F)
   T

18. The number of items in `cboBox` is `cboBox.Items.Count`. (T/F)
   T

19. The value of `cboBox.Items(n)` is the $n$th item in the combo box. (T/F)
   F

Section 9.2 Eight Additional Controls and Objects

1. For a scroll bar, the value of the Value property is
   (A) any number.
   (B) a number between the values of the SmallChange and LargeChange properties.
   (C) a number between the values of the Minimum and Maximum properties.
   (D) true or false.
   C

2. To move the scroll box of a scroll bar a large distance
   (A) click on the scroll box.
   (B) click on the furthermost arrow button.
   (C) click on the bar between the scroll box and the furthermost arrow.
   (D) It can only be moved by writing code.
   C

3. Which of the following steps turns off a timer control?
   (A) Set the Interval property to zero.
   (B) Set the Enabled property to False.
   (C) Make the timer control invisible.
   (D) None of the above
   B

4. The distance that the scroll box of a scroll bar will move when an arrow on the scroll bar
   is clicked is determined by
   (A) LargeChange.
   (B) SmallChange.
   (C) Value.
   (D) Maximum.
   B
5. The largest possible value for the Value property in a scroll bar is determined by
   (A) the LargeChange property.
   (B) the Minimum property.
   (C) the Value property.
   (D) the Maximum property.
   D

6. Which of the following methods is used to load a new picture into a picture box control?
   (A) picBox.Picture = filespec
   (B) picBox.Image = filespec
   (C) picBox.Image = Image.FromFile(filespec)
   (D) picBox.Picture = LoadPicture(filespec)
   C

7. Which of the following controls is NOT used to select an item from a list?
   (A) List Box
   (B) ComboBox
   (C) Timer Control
   (D) OpenFileDialog
   C

8. In order to begin timing with the timer control, which one of the following must be true?
   (A) the timer control’s Name property must include the prefix tmr
   (B) the timer control’s Interval property must be set to 1
   (C) the timer control’s Enabled property must be set to False
   (D) the timer control’s Enabled property must be set to True
   D

9. Which of the following settings of a timer's Interval property will raise a timer event every 5 seconds?
   (A) 5
   (B) 5000
   (C) 5 seconds
   (D) 5000 milliseconds
   D
10. In the following statement which term is used to designate the distance (in pixels) from the left side of the picture box to the left side of the rectangle?

\[ \text{picBox.CreateGraphics.DrawRectangle(Pens.Blue, x, y, w, h)} \]

(A) \( h \)
(B) \( w \)
(C) \( y \)
(D) \( x \)

D

11. A form contains a horizontal scroll bar control named hsbXpos, and the statement

\[ \text{lblFace.Top = hsbXpos.Value} \]

is placed inside the hsbXpos.Scroll event procedure (where lblFace identifies a label on the form, and the hsbXpos’s Minimum and Maximum properties are set at their default values). What will happen when the hsbXpos.Scroll event is triggered by moving the scroll bar’s scroll box to the right?

(A) lblFace will move to the left
(B) lblFace will move up
(C) lblFace will move down
(D) lblFace will move to the right

C

12. A form contains a horizontal scroll bar control named hsbXpos, and the code

\[ \text{lblFace.Left = hsbXpos.Value} \]

is placed inside the hsbXpos.Scroll event procedure (where lblFace identifies a label on the form, and the hsbXpos’s Minimum and Maximum properties are set at their default values). What will happen when the hsbXpos.Scroll event is triggered by moving the scroll bar’s scroll box to the right?

(A) lblFace will move to the left
(B) lblFace will move up
(C) lblFace will move down
(D) lblFace will move to the right

D

13. With a scroll bar control, the default values of the Minimum and Maximum properties are 1 and 100 respectively. (T/F)

F

14. When the SizeMode property of a picture box control is set to StretchImage, a picture placed in the control will be resized to fit the picture control. (T/F)

T

15. The main properties of a scroll bar are set in millimeters. (T/F)

F

16. The size of a picture assigned to a picture box control is limited by the original size of the picture. (T/F)

F
17. For a timer control named Timer1, the Timer1.Enabled event is triggered each time Timer1.Interval milliseconds elapses. (T/F)  
F

18. The timer control is invisible during run time. (T/F)  
T

19. The following statement can be used to assign the Plane.bmp image to the picBox picture box control at runtime. (T/F)  
    picBox.Image = "Plane.bmp"
F

20. The SizeMode property of a picture box control cannot be altered at run time. (T/F)  
F

21. The Clipboard object is used for all of the following except which one?  
   (A) Copy text to the Clipboard.  
   (B) Paste text from the Clipboard.  
   (C) Clear the screen.  
   (D) Clear the Clipboard.  
C

22. The correct code for replacing the selected text in txtBox with the contents of the Clipboard is:  
   (A) txtBox.SelectedText = Clipboard.Text  
   (B) txtBox.SelectedText = Clipboard.SetText  
   (C) txtBox.SelectedText = Clipboard  
   (D) txtBox.SelectedText = Clipboard.GetText  
D

23. What expression should be used to generate random numbers from the set 2, 3, 4, 5, 6, 7? (Assume that the statement Dim randomNum As New Random() has been executed.)  
   (A) randomNum.Next(2, 7)  
   (B) randomNum.Next(1, 7)  
   (C) randomNum.Next(1, 8)  
   (D) randomNum.Next(2, 8)  
D

24. MenuStrip controls respond to which one of the following events?  
   (A) Change  
   (B) Click  
   (C) Double  
   (D) Load  
B
25. Which of the following statements is true concerning the Clipboard object?

(A) It is used to produce the Microsoft Help.
(B) It is used to create a text file that permanently maintains copied items on the hard drive.
(C) It is an object that appears on the form and is raised by its Click event.
(D) It is a portion of memory that holds information and has no properties or events.

D

26. A form contains a text box named txtBox and a button named btnClip. The statement `Clipboard.SetText(txtBox.Text)` is placed inside btnClip’s Click event procedure. At run time, what will be placed into the Clipboard if the user enters the word “Hello” into txtBox and then clicks on btnClip?

(A) the word “txtBox”
(B) the word “Hello”
(C) the Clipboard will be emptied of all contents
(D) the word “btnClip”

B

27. A form contains a text box named txtBox and a button named btnClip. The statement `Clipboard.SetText("")` is placed inside btnClip’s Click event procedure. At run time, what will be placed into the Clipboard if the user enters the word “Hello” into txtBox and then clicks on btnClip?

(A) the word “txtBox”
(B) the word “Hello”
(C) the Clipboard will be emptied of all contents
(D) the word “btnClip”

C

28. A form contains a button called btnDisplay, and the following code is placed inside btnDisplay’s Click event procedure. At run time, which one of the following cannot possibly be displayed in the message box when the user clicks on btnDisplay?

```vba
Dim rndNum As New Random()
Dim num1 As Integer
num1 = rndNum.Next(0, 3)
MessageBox.Show(CStr(num1))
```

(A) 3
(B) 2
(C) 1
(D) 0

A

29. Pressing Ctrl+V with the cursor in a text box inserts the contents of the Clipboard at the cursor position. (T/F)

T
30. The statement `Clipboard.SetText(str)` replaces the current contents of the Clipboard with the value of `str`. (T/F)  
   T

31. Menus are designed with the MenuStrip control invoked from the Toolbox. (T/F)  
   T

32. Given that the ANSI value for the letter A is 65, the pair of statements below will always display one of A, B, or C. (T/F)  
   Dim randomNum As New Random()  
   txtBox.Text = Chr(randomNum.Next(65,68))  
   T

33. The Clipboard object is used to move or copy information from one location to another, including from one Windows application to another. (T/F)  
   T

34. A random number generator object can be declared with the following statement. (T/F)  
   Dim rndNum As New Random()  
   T

35. A form contains a button called btnDisplay, and the following code is placed inside btnDisplay’s Click event procedure. At run time, identical values will be displayed for `num1` and `num2` in the message box. (T/F)  
   Dim num1, num2 As Integer  
   num1 = rndNum.Next(0, 3)  
   num2 = rndNum.Next(0, 3)  
   MessageBox.Show(num1 & " " & num2)  
   F

36. The output of the following lines of code will be a randomly selected whole number from 1 through 6, inclusive.  
   Dim rndNum As New Random()  
   num1 = rndNum.Next(1, 7)  
   MessageBox.Show(num1)  
   T

37. When working with the MenuStrip control, the programmer is not allowed to set up access keys by placing an ampersand in front of a character of text. (T/F)  
   F

38. When working with the MenuStrip control, the programmer makes the menus useful by placing code in the relevant Click event procedure for each menu item. (T/F)  
   T
39. After a ToolTip control has been placed into the component tray of the Form Designer, the message that appears when the mouse hovers over a text box is set with which of the following properties?

(A) ToolTip
(B) Message
(C) ToolTip on ToolTip1
(D) ToolTipMessage

C

40. After a ToolTip control has been placed into the component tray of the Form Designer, the setting of what property determines how long a tooltip will remain visible when the mouse hovers over a text box?

(A) AutomaticDelay
(B) AutoPopDelay
(C) Duration
(D) AutoDelay

B

41. After a ToolTip control has been placed into the component tray of the Form Designer, the setting of what property determines the amount of time required for a tooltip to appear when mouse hovers over a text box?

(A) AutomaticDelay
(B) AutoPopDelay
(C) Duration
(D) AutoDelay

A

Section 9.3 Multiple-Form Programs

1. The term modal refers to

   (A) the user not being allowed to shift the focus to any other form until the displayed modal form is hidden.
   (B) the BorderStyle property is set to "3-Fixed Double."
   (C) the ability to reposition a form at run time.
   (D) the ability to display more than one form at one time.

   A

2. A variable that is visible to every form in a program is said to have _________ scope.

   (A) class-level
   (B) module-level
   (C) global
   (D) namespace-level

   D
3. Namespace-level variables are declared with the keyword _______.
   (A) Dim
   (B) Private
   (C) Public
   (D) Global
   C

4. The _______ event occurs just before a form closes.
   (A) FormClosing
   (B) Closing
   (C) CloseForm
   (D) FormEnding
   A

5. The _______ control is used to print a form.
   (A) PrintDocument
   (B) FormPrinter
   (C) Print
   (D) PrintForm
   D

6. The _______ method is used to display a form as a modal form and give it the focus.
   (A) ShowForm
   (B) ShowDialog
   (C) showModal
   (D) ShowModalForm
   B

7. A program contains two forms with the names Form1 and Form2. Form1 contains a button called btnDisplay, and the following code is placed inside btnDisplay’s Click event procedure.

   ```
   Form2.ShowDialog()
   MessageBox.Show("Hello")
   ```

   Which of the following statements is true after the user clicks on btnDisplay at run time?
   (A) Form2 appears behind Form1 and the user will be able to set the focus to either form.
   (B) Form2 appears in front of Form1 and the user will only be able to set the focus to Form2.
   (C) A message box displaying the text “Hello” appears in front of Form2 and Form1.
   (D) A message box displaying the text “Hello” appears behind Form2 and Form1.
   B

8. When working with multiple forms, only one form can be visible at the same time. (T/F) F
9. A modal form cannot lose the focus until the form disappears. (T/F)  
   T

10. Code in one form can refer to controls in another form. (T/F)  
    T

11. A class-level variable declared in one form can be accessed by other forms if it is  
    declared with the keyword Public. (T/F)  
    T

12. The first form loaded when a program starts running is called the ________ form.  
    (A) default  
    (B) startup  
    (C) initial  
    (D) favored  
    B

13. The __________ is used to specify the startup form for a program.  
    (A) Toolbox  
    (B) Properties window  
    (C) Project Designer  
    (D) Toolbar  
    C

14. Forms only can be closed with statements of the form Me.Close(). (T/F)  
    F

Section 9.4  Graphics

In the following exercises assume the statement Dim gr As Graphics =  
picOutput.CreateGraphics has been executed.

1. What is the effect of the statement gr.DrawString("Hello", Me.Font,  
   Brushes.Blue, 50, 60)?  
   (A) Display the word Hello in blue.  
   (B) Display the word Hello beginning 50 pixels from the left side of the picture box.  
   (C) Display the word Hello with the top of the word 60 pixels from the top of the picture  
   box.  
   (D) All of the above  
   D
2. Give a statement that displays the value of the string variable *strVar* with yellow letters.

   (A) `gr.DrawString(strVar, Me.Font, Yellow, 50, 50)`
   (B) `gr.DrawString(strVar, Me.Font, Brushes.Yellow, 50, 60)`
   (C) `gr.DrawString(strVar, Me.Font, Pens.Yellow, 50, 60)`
   (D) `gr.DrawString(strVar, Me.Font, Color.Yellow, 50, 60)`

   B

3. Give a statement that draws a red diagonal from the upper-left corner of the picture box to the lower-right corner.

   (A) `gr.DrawLine(Color.Red, 0, 0, picOutput.Width, picOutput.Height)`
   (B) `gr.DrawLine(Pens.Red, 0, 0, picOutput.Height, picOutput.Width)`
   (C) `gr.DrawLine(Pens.Red, 0, 0, picOutput.Width, picOutput.Height)`
   (D) `gr.DrawLine(Pens.Red, picOutput.Width, 0, 0, picOutput.Height)`

   C

4. Give a statement that draws a blue line from the upper-left corner of the picture box to the center of the picture box.

   (A) `gr.DrawLine(Pens.Blue, 0, 0, picOutput.Width/2, picOutput.Height/2)`
   (B) `gr.DrawLine(Pens.Blue, picOutput.Height, picOutput.Width, 0, 0)`
   (C) `gr.DrawLine(Pens.Blue, 0, 0, picOutput.Height/2, picOutput.Width/2)`
   (D) `gr.DrawLine(Pens.Blue, picOutput.Width/2, 0, 0, picOutput.Height/2)`

   A

5. The radius of the circle drawn by the statement `gr.DrawEllipse(Brushes.Red, 10, 20, 40, 40)` is

   (A) 10 pixels.
   (B) 20 pixels.
   (C) 40 pixels.
   (D) 80 pixels.

   B

6. The center of the circle drawn by the statement `gr.DrawEllipse(Brushes.Red, 10, 20, 40, 40)` has coordinates

   (A) (30, 40).
   (B) (10, 20).
   (C) (20, 40).
   (D) (40, 40).

   A
7. The distance from the top of the picture box to the top of the circle drawn by the statement `gr.DrawEllipse(Brushes.Red, 10, 20, 40, 40)` is
   (A) 10 pixels.
   (B) 20 pixels.
   (C) 40 pixels.
   (D) 80 pixels.
   B

8. The statements `gr.DrawLine(Pens.Red, 0, 0, 30, 40) and gr.DrawLine(Pens.Red, 0, 0, 40, 30)` draw lines of the same length. (T/F) T

9. The statements `gr.DrawLine(Pens.Red, 0, 0, 30, 40) and gr.DrawLine(Pens.Red, 10, 20, 40, 60)` draw lines of the same length. (T/F) T

10. The statements `gr.DrawLine(Pens.Red, 10, 20, 30, 40) and gr.DrawLine(Pens.Red, 30, 40, 10, 20)` draw the same line. (T/F) T

11. The statement `gr.FillRectangle(Brushes.Red, 10, 20, 30, 40)` draws a solid rectangle of width 40 pixels. (T/F) F

12. The statement `gr.FillRectangle(Brushes.Red, 0, 0, picOutput.Width/2, picOutput.Height/2)` colors the upper-left quarter of the picture box red. (T/F) T

13. The statement `gr.FillPie(Brushes.Red, 10, 10, 30, 30, 0, 180)` draws a semi-circle. (T/F) T

14. The sector of a circle with sweep angle 90 consists of a quarter of the circle. (T/F) T

15. The sector of a circle with start angle 90 and sweep angle 180 consists of the left half of the circle. (T/F) T

16. Animation can be produced by placing an image in a picture box and moving the picture box. (T/F) T

17. The value of `Me.ClientSize.Height` is the distance between the form’s title bar and the bottom border of the form. T
18. The statement Dim pn As Pen = Pens.Blue is valid.

T

19. Give a statement that deletes all graphics and text from picOutput.

   (A) picOutput.Clear()
   (B) picOutput.Text = ""
   (C) picOutput.Delete()
   (D) picOutput.Refresh()

D

20. The pair of statements

   Dim fnt As Font = New Font("Times New Roman", 12)
   Gr.DrawString("Hello", fnt, Brushes.Blue, 10, 10)

   displays the word Hello in 12-point Times New Roman font.

   T

21. What control is added to a form to enable printing of graphics?

   (A) Printer
   (B) PrintPage
   (C) PrintDocument
   (D) PrintDialog

   C