

True/False

1. MessageBox method Show displays a message dialog, which is typically used to display an important message to the user. The arguments of MessageBox method Show are the message String, the String that's displayed in the dialog's title bar and predefined constants that specify the Button(s) and the icon to show on the dialog, respectively.
True False
2. Two types of methods exist: subroutines and functions.
True False
3. The header for a function must define the return type of the value to be returned.
True False
4. When Option Explicit is set to Off, the compiler will interpret misspelled variable names as new variables.
True False
5. Overloaded methods normally perform similar tasks, but on different types of data.
True False
6. Arrays consist of items of different types.
True False
7. An array reference may be assigned only to a different array of the same size as the array it's currently referencing.
True False
8. The position number in square brackets is formally called an index.
True False
9. Only literal integer values can be used as an index into an array.
True False
10. The value used to indicate a specific location within an array is called the index or subscript.
True False
11. The number of elements in the array must be specified in parentheses after the array name in the declaration.
True False
12. Each reference in an array of references is pointed to Nothing by default when the array is allocated.
True False
13. In an array of Boolean variables, if the initializer list is empty, the elements in the array are initialized to the default value True.
True False
14. The declaration and allocation of an array can be combined into one statement.
True False
15. Visual Basic can determine the array bounds from the number of elements in the initializer list.
True False

16. An individual element of an integer array is passed to a method by value.
True False
17. Changes made to an entire array that has been passed to a method will not affect the original values of the array.
True False
18. When we pass an array object to a procedure, we do not need to pass the upper bound of the array as a separate argument.
True False
19. For Each...Next loop is barely used because it's more complicated than the For...Next loop.
True False
20. The ReDim statement enables you to dynamically change the array size, type of the array elements, and the number of dimensions in the array.
True False
21. The ReDim statement is used only to expand an array.
True False
22. Data stored in arrays is permanent data.
True False
23. File-processing capabilities are important for a programming language to support commercial apps.
True False
24. A field is a random group of characters.
True False
25. To distinguish records, there has to be one field that's unique for each instance; this is called the record key.
True False
26. StreamReader property EndOfStream returns True if the end of the file has been reached.
True False
27. The optional Finally block—if present—executes only when an exception occurs in the corresponding Try block.
True False
28. Local variables in a Try block cannot be accessed in the corresponding Finally block.
True False
29. When an argument is sent ByVal, a copy of the argument's value is sent to the procedure so that the procedure cannot alter the original value.
True False
30. It is possible to add values to a list box or combo box during design by using the Items property.
True False
31. The SelectedIndex property can be used to select an item in the list or to determine which item is selected.
True False

32. A loop that begins with Do Until will test the condition at the top of the loop.
True False
33. An array is a list or series of values.
True False
34. A subscript may also be called an index.
True False
35. An exception is automatically thrown if a subscript is used that is not a valid element in an array.
True False
36. A Web Form created in Visual Basic can only be displayed in Internet Explorer.
True False
37. Windows Explorer and Internet Explorer are Web browsers.
True False
38. Developing Web applications requires only a Web client; a Web server is optional.
True False
39. A Web server can be either remote or on the local machine.
True False
40. Web Forms in Visual Basic use ASP.NET.
True False
41. A Web Form generates a file with an .aspx extension that stores the HTML code.
True False
42. The file in a Web project with the.aspx.vb extension contains the Visual Basic code.
True False
43. Web Forms have a Form_Load event just like Windows forms.
True False
44. Add an HTML table to a Web Form if you want to have more control over the placement of elements on the Web page.
True False
45. Validator controls are run on the client-side, so the page does not have to be submitted to the server for input validation.
True False
46. HTTP is the protocol used to send and receive Web pages over the Internet using standardized request and response messages.
True False
47. A relational database generally contains multiple tables and relationships between the tables.
True False
48. A database may contain more than one table.
True False
49. A TableAdapter, a DataSet, and BindingSource objects are added to the component tray when you add data-bound controls to a Windows form.
True False

50. A table adapter automatically generates SQL statements that you can use to access or update data.
True False
51. A dataset is a temporary set of data stored in the memory of the computer.
True False
52. When working with a dataset, you are connected to the original database and all changes take place in the original database table.
True False
53. Objects have properties and methods.
True False
54. The acronym OOP stands for Object-Oriented Procedures.
True False
55. A button on a form is an instance of the Button class.
True False
56. Creating a class module defines a new class; it does not create any objects.
True False
57. Inheritance is the ability to create a new class from an existing class.
True False
58. Forms are inherited from System.Windows.Forms.Form class.
True False
59. The middle tier, the Business tier, can be stored in a location other than where the Presentation tier is stored.
True False
60. To accomplish encapsulation, you must declare all variables in a class as Public.
True False
61. The value of a property in a class module can be retrieved through the Get accessor method in the Property procedure.
True False
62. Property procedures are Public by default, so you can omit the optional Public keyword at the beginning of the Property procedure.
True False
63. When you add a class module to a project, any form in the same project will automatically recognize the class properties, methods, and events.
True False
64. Declaring a variable for a class object sets up the memory location for the new object, but it does not actually create the object.
True False
65. You can create a new class based on one of the existing VB classes or from one of your own classes.
True False
66. A derived class can inherit all public and protected members and methods of the base class, but it cannot inherit constructors from the base class.
True False

67. 4. A database management system (DBMS) provides mechanisms for storing, organizing, retrieving and modifying data contained in the database.

True False

Multiple Choice

1. _____ causes the compiler to check all conversions and requires you to perform all narrowing conversions explicitly.

- a) Option Explicit
- b) Option Strict
- c) Option Convert
- d) None of the above

2. Which of these statements best defines scope?

- a) Scope refers to the classes that have access to a variable.
- b) Scope determines whether a variable's value can be altered.
- c) Scoping allows you to use a class without using its fully qualified name.
- d) Scope is the portion of a program that can refer to an entity by its simple name.

3. Overloaded methods always have the same _____.

- a) method name
- b) return type
- c) number of the parameters
- d) order of the parameters

4. An overloaded method is one that

- a) has a different name than another method, but the same parameters.
- b) has the same name as another method, but different parameters.
- c) has the same name and parameters as a method defined in another class.
- d) has the same name and parameters as another method, but a different return type.

5. Which of the following statements is false?

- a) To have an optional parameter, place the Optional keyword at the beginning of an argument in the method header.
- b) The optional parameter must provide a default value.
- c) The optional argument(s) can be placed anywhere in the parameter list of the method header.
- d) When calling a method, the optional argument can be omitted.

6. Arrays normally are data structures.

- a) constant
- b) dynamic
- c) static
- d) None of the above.

7. The number in parentheses after an array name is the of the item in the array.

- a) value
- b) position
- c) size
- d) None of the above.

8. Consider the array:

$s(0) = 7$
 $s(1) = 0$
 $s(2) = -12$
 $s(3) = 9$
 $s(4) = 10$
 $s(5) = 3$
 $s(6) = 6$

The value of $s(s(6) - s(5))$ is:

- a) 0
- b) 3
- c) 9
- d) 0

9. To declare an array one must provide the:

- a) array name and array size
- b) array name and data type
- c) array size and data type
- d) array name, array size and data type

10. You must do the following before using an array:

- a) declare then reference the array
- b) initialize then declare the array
- c) initialize then reference the array
- d) declare then initialize the array

11. Consider the code segment below. Which of the following statements is false?

```
Dim array(5) As Integer
```

- a) The first statement declares an array reference.
- b) The second statement creates the array.
- c) array is a reference to an array of integers.
- d) The value of $array(3)$ is -1.

12. Invalid possibilities for array indices include .

- a) positive integers
- b) negative integers
- c) zero

13. Referencing an element outside the array bounds is a:

- a) syntax error
- b) compile error
- c) runtime error
- d) None of the above

14. Array element values of primitive data types, such as Integer, can be passed to a method by:

- a) value
- b) reference
- c) both a and b
- d) None of the above

15. An array itself can be passed to a method by:

- a) value
- b) reference
- c) both a and b
- d) None of the above

16. The For Each...Next repetition statement requires you to provide an array, its type and a variable for the purpose of:

- a) preventing the statement from going past the end of the array
- b) storing the value of each typed element that's traversed
- c) acting as a counter to traverse the array
- d) None of the above.

17. Rectangular arrays are often used to represent tables of values consisting of information arranged in:

- a) rows
- b) columns
- c) both a and b
- d) None of the above

18. For the array in the previous question, what is the value returned by items(1, 0)?

- a) 4
- b) 8
- c) 12
- d) 6

19. How many RadioButtons in a group can be selected at a time?

- a) 0
- b) 1
- c) 2
- d) all of them

20. The optional _____ keyword in the ReDim statement will keep the existing array elements after the array is resized.

- a) Keep
- b) Copy
- c) Preserve
- d) Save

21. _____ are used for long-term retention of large amounts of data.

- a) Memory cards
- b) Buffers
- c) Files
- d) Data structures.

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

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

23. One byte is composed of:

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

24. The _____ control enables you to place a menu bar in your window.

- a) MenuTool
- b) MenuBar
- c) MenuStrip
- d) None of the above

25. The _____ namespace contains stream classes such as StreamWriter and StreamReader.

- a) System.IO
- b) System.ReadWrite
- c) System.InputOutput
- d) System.

26. Most file processing operations have the potential to throw _____, so such operations are typically placed in Try statements.

- a) FileExceptions
- b) ReadWriteExceptions
- c) InputOutputExceptions
- d) IOExceptions

27. StreamWriter method _____ writes a sequence of characters to a file and positions the output cursor to the beginning of the next line in the file.

- a) WriteLine
- b) NewLine
- c) NextLine
- d) WriteMoveCursor

28. To specify the shortcut key for a menu or menu item, type a _____ before the character to be underlined in the menu or menu item's name.

- a) %
- b) *
- c) &
- d) #

29. Like Buttons, menu items have _____ events that notify the program when an item is selected.

- a) Select
- b) Hover
- c) Choose
- d) Click

30. The _____ block is an ideal location in which to place resource release code for resources such as files that are acquired and manipulated in the corresponding Try block.

- a) Catch
- b) Release
- c) Finally
- d) Return

31. Which of the following is NOT true about passing arguments to procedures or functions?

- a) Arguments may be passed ByVal or ByRef.
- b) An argument that is passed ByRef cannot alter the original value.
- c) Specifying ByVal or ByRef is not required when passing arguments.
- d) If ByVal or ByRef is not specified, the argument will be sent by value.

32. If you need the user to respond to a form before continuing, you should display the form as _____.

- a) modular
- b) modal
- c) modeless
- d) modeled

33. The SelectedIndex property of the first item in a list is _____.

- a) -1
- b) 0
- c) 1
- d) True

34. What is the value of the SelectedIndex property if the user has selected the last item in a list with four items?

- a) 3
- b) 4
- c) 5
- d) 0

35. Terminate a For/Next loop with the _____ statement.

- a) Exit
- b) Exit For
- c) Exit Loop
- d) Continue

36. How many elements are contained in the array created with the following code?

```
Dim EmployeeString(25) As String
```

- a) 0 (The code is incorrect to create an array.)
- b) 24
- c) 25
- d) 26

37. When you are working with an array, the easiest way to traverse the elements is to use the _____.

- a) If / Then statement
- b) Next statement
- c) For Each / Next statement
- d) Case structure

1. A Web Form can display in _____.

- A. a browser
- B. Internet Explorer
- C. Netscape Navigator
- D. All of these

2. A Web Form displays as a document in a(n) _____.

- A. browser
- B. intranet
- C. Web client
- D. Web server

4. HTML Web pages are _____.

- A. dynamic
- B. stateless
- C. servers
- D. browsers

5. The Web application file that holds the Visual Basic code for a given web form is the _____ file.

- A. HTML
- B. aspx
- C. aspx.vb
- D. asp

6. Windows controls have a Name property, but Web controls call this the _____ property.

- A. IIS
- B. WebName
- C. Identity
- D. ID

7. Add elements to a Web page in a manner similar to writing text in a _____.

- A. word processor
- B. spreadsheet
- C. Paint program
- D. Web browser

12. A _____ occurs each time a Web page is displayed, or redisplayed.

- A. postback
- B. viewstate
- C. stateback
- D. stateless

17. A doctor's office uses a database to store information about each of the patients. All of the information about a patient is stored in a _____.

- A. file in the database
- B. record in a database table
- C. field in the database table
- D. key field

18. A database table that contains information about the students in a college probably uses the _____ as the key field.

- A. last name
- B. zip code
- C. date of birth
- D. student identification number

19. Each row in a database table represents a _____.

- A. file
- B. field
- C. record
- D. key field

20. A _____ is a temporary set of data stored in the memory of the computer.

- A. record source
- B. dataset
- C. connector
- D. table adapter

22. Which one of the following is NOT a component that appears in the component tray after a DataGridView control has been connected to a data source?

- A. DataSet
- B. BindingSource
- C. TableAdapter
- D. DataNavigator

32. In the statement, `PhoneStreamWriter.WriteLine(NameTextBox.Text)`, `NameTextBox.Text` refers to _____.

- A. the record number
- B. the variable that will store the data in `NameTextBox`
- C. the data file number
- D. the `Text` property of the object that contains the data that will be written to disk

33. Which of the following will occur if you are opening a data file with the `StreamReader` object and the file does not exist?

- A. The file will be created.
- B. An exception will occur.
- C. VB will automatically use the last file created with the `StreamWriter`.
- D. VB will shut down the computer.

34. What should be used to handle exceptions and avoid terminating the program when an exception occurs during run-time?

- A. `Do / Loop`
- B. `Off Error`
- C. `Case Error`
- D. `Try/Catch`

35. When reading data in a data file, the data will be read _____.

- A. in alphabetical order
- B. in the order in which it was written
- C. in key field order
- D. in random order

36. You can use _____ in order to allow the user to browse and find a file at run time.

- A. the `OpenFileDialog` common dialog control
- B. the `StreamReader` object
- C. the `OpenDialog` control
- D. a hard-coded path name

37. The acronym OOP stands for _____.

- A. Object-Ordering Programs
- B. Other-Object Procedures
- C. Object-Organized Projects
- D. Object-Oriented Programming

38. _____ refers to the combination of characteristics of an object along with its behaviors in a single definition.

- A. Reusability
- B. Inheritance
- C. Encapsulation
- D. Polymorphism

39. _____ refers to data hiding.

- A. Encapsulation
- B. Instantiation
- C. Inheritance
- D. Polymorphism

40. In a multitier application, which tier contains the user interface?

- A. The Presentation tier
- B. The Business tier
- C. The Data tier
- D. The Class tier

41. The _____ tier should contain the calculations that handle the data.

- A. Class tier
- B. Presentation tier
- C. Data tier
- D. Business tier

42. A class allows its properties to be retrieved through _____.

- A. a Let block
- B. a Get accessor method
- C. a Set accessor method
- D. the New keyword

43. Property procedures are _____ by default.

- A. Local
- B. Module-level
- C. Private
- D. Public

44. A _____ is a method that automatically executes when an object is instantiated.

- A. constructor
- B. destructor
- C. overloaded method
- D. derived class

45. Which of the following statements about class modules is NOT true?

- A. Class modules only contain a code window.
- B. Class modules can contain a code window and a form window.
- C. Class modules contain Property procedures that have Get and/or Set accessor methods.
- D. Class modules must be instantiated in order to be available to a project.

46. Which of the following is NOT true?

- A. A constructor can be written without any arguments.
- B. A constructor can contain multiple arguments.
- C. Writing a constructor for a class module is not required.
- D. Constructors begin with the code, "Public Sub Constructor()".

47. Which of the following is NOT true?

- A. A separate memory location exists for each instance of a class.
- B. Shared variables are available for all objects of a class.
- C. Shared members can be accessed without instantiating an object of the class.
- D. Instance members can be used as counters or accumulators.

48. The destructor method automatically executes _____.

- A. when an object goes out of scope
- B. when an object is destroyed
- C. when an object is created
- D. Answers A and B are correct.

49. The quickest and most reliable way to look up the names of objects, properties, methods, events, and constants for Visual Basic objects is by using the _____.

- A. toolbox
- B. Class module
- C. Object Browser
- D. enumerator

Short Answer

Explain the difference between passing an argument ByVal, ByRef

Explain the difference between a window opened modally versus modelessly.

Write For Next loop to iterate items in ListBox or an Array

Difference between For/Next and For/Each, give example

Dimension array variables, single and multi dimensional

Difference between function and sub routine

Define the general format/flow of a Menu (File, Edit, View, etc.)

What is the Items collection and how does it relate to a list box and/or a combo box?

Dimension a variable that can be used for a seating chart that will hold student names in a classroom that has 5 tables, each with 7 chairs.