

**True/False**

1. A `Select Case` statement must have at least 3 cases.
2. Module-level variables have wider scope than global variables.
3. Global variables should be used as much as possible.
4. List variables (also known as arrays) always store exactly 10 elements.
5. The statement `Dim intGrades(1 To 10) As Integer` reserves memory for exactly 10 elements.
6. The statement `intCount = intCount + 1` is a counter statement.
7. The `Open` statement is used to open random access files.
8. Visual Basic projects can have more than one form.
9. A file must be closed or a run-time error will occur.
10. Once you have initially placed a command button on a form, you cannot reposition it in any way even during Design time.
11. The `Len` function is used to determine the length of a list variable (array).
12. You must include the `Option Explicit` statement in the `Form_Load` event procedure.
13. A procedure can have 2 or more parameters (also known as arguments).
14. Before you read from or write to a file, you must open it.
15. Sequential access files are organized as records.
16. The `Visible` property can be used with menu command objects.
17. It is wise to leave a menu command enabled at all times.
18. `Select Case` statements are more similar to `If/ElseIf` statements than they are to loops.
19. The `Visible` property is usually used with message boxes to make them disappear.
20. Another name for an array is a list.
21. The statement `Dim ArrayExample(15) As String` declares an array of integers.
22. An enabled menu item can be clicked to generate a `Click` event.
23. Subscript is the term for the position of an element within an array.
24. A listbox control has a `Clear` method.

For the following set of questions indicate True or False depending on whether syntax errors or runtime errors are present. Do not consider logic errors. Remember that a syntax error is an error that prevents VB from executing a statement or line of code. You can assume that variables or objects with a VB prefix are of the specified data type or control and that they were declared or created properly.

25. There are no syntax errors in the statement: `Dim intStudentList(-3 To 5) As Integer`
26. There are no syntax errors in the statement: `intDiceRoll = Int( Rnd * 6) + 1`
27. There are no syntax errors in the statement: `Form1.Print "Hello"`
28. There are no syntax errors in the statement: `Case Select intChoice`
29. There are no syntax errors in the statement: `Dim intFirstArray(24) As Integer`
30. There are no syntax errors in the statement: `Const MAX As Integer = 500`
31. There are no syntax errors in the statement: `Put #1, 5, strUserName`
32. There are no syntax errors in the statement: `Close`
33. There are no syntax errors in the statement: `txtUserInput.Hide = True`
34. There are no syntax errors in the statement: `mnuSave.Enabled False`
35. There are no syntax errors in the statement: `MsgBox "Click to Continue"`
36. There are no syntax errors in the statement: `intA(m) = intSum + 1`
37. There are no syntax errors in the statement: `For Counter = 0 To 4 Step 0.5`

**Determine the Output** – Write your answers on the answer sheet that has been provided.

Deskcheck the following code segments and answer the following questions. If a final answer is a string, make sure that you surround the answer with double quotes ("John\_Doe"). Use the underscore character ( \_ ) to indicated any blank spaces within string literals. The code segments should not contain any syntax errors. If you believe a syntax error exists, explain it as carefully and thoroughly as possible. Assume that all variables and objects referred to in each code segment have been declared or created with any default values normally supplied by Visual Basic.

```
Dim j As Integer
Dim intMembers(1 To 13) As Integer

For j = 1 To 11
    intMembers(j) = 5
Next j

intMembers(10) = j - 1
```

38. What is the final value of the variable j after the code segment has fully executed?
39. How many iterations of the For/Next loop occurred?
40. What is the final value of intMembers(10) ?
41. What is the final value of intMembers(12) ?

```
Dim intLoop As Integer
Dim strAnswer As String
Dim strOther As String
strAnswer = ""

For intLoop = 4 to 2 Step -1
    strAnswer = strAnswer & "M"
Next k

strOther = Right(strAnswer, 3)
```

42. What is the final value of strAnswer after the code segment has fully executed?
43. What is the final value of strOther?

```
Dim intList(10) As Integer
Dim J As Integer

Do While (J < 5)
    intList(J) = J * 2
    J = J + 1
Loop

intList(7) = 3 + intList(3)
intList(8) = intList(3 + 2)
intList(1) = intList(9)
```

44. What is the final value of intList(1) ?
45. What is the final value of intList(2) ?
46. What is the final value of intList(3) ?
47. What is the final value of intList(4) ?
48. What is the final value of intList(5) ?
49. What is the final value of intList(6) ?
50. What is the final value of intList(7) ?
51. What is the final value of intList(8) ?
52. What is the final value of intList(9) ?

**Write a Statement or Code Segment** – Write efficient and syntactically correct Visual Basic statements or code segments that fulfill the following tasks. Declare all necessary variables. You must use the variable and object names given in each problem. If you need to use additional variables or objects, use the correct prefixes.

53. Write a statement that declares an array named `intGames` which can store exactly 50 integers. The first element of the array should have a subscript of 12.
54. Write a statement that opens a file whose path and filename is "C:\questions.dat". Open it as a random access file with read access. The length of each record of the file is 85 bytes and the file number should be #2.
55. Write a statement that opens a file whose pathname is "C:\Temp\scores.txt". Open it as a sequential access for output with the file number #1.
56. Write a statement that places a checkmark next to a menu command object named `mnuEditRed`.
57. Write a statement that draws a line segment from the top left corner of a form named `frmMain` to the point 200, 300.
58. Write a statement that declares a module-level array of 10 `QuestionAndAnswer` user-defined types. Name the array `mudtJeopardyQuestions`. The subscript positions of the array should be 1 through 10.
59. Write a statement that assigns the string "blue" to a member variable `strAnswer` of the first element of the array declared in the previous exercise.
60. Write a statement that uses the `Rnd` function to compute and store a random integer between or including 1 and 6 in the variable `intDiceRoll`.
61. Write a statement that uses the `Rnd` function to compute and store a random integer between or including 1 and 100 in the variable `intRoulette`.
62. Write a statement that uses the `Rnd` function to compute and store a random integer between or including 11 and 16 in the variable `intDiceRoll`.
63. Write a code segment that uses a `Do/While` loop to search an array of integers named `intList` to determine if the value 99 is found in any position within `intList`. The array has 25 elements with the subscript positions 1 to 25. If the value 99 is found, assign the subscript position of the first found occurrence to the variable `intLocation`. Otherwise the value -1 should be assigned to `intLocation`. You may assume that the array `intList` has been declared and contains a valid integer value in each position. You must declare all variables properly.
64. Write a full `Form_KeyPress` event procedure for a form named `frmMain` that causes the `PictureBox` object `picPlane` to move in the following manner. It should move 10 twips to the left if the lowercase letter 'a' is pressed. It should move 10 twips to the right if the lowercase letter 'b' is pressed.
65. Write a `Do/While` loop that moves a shape object named `shpObject` from right to left across a form named `frmMain` until the left edge of `shpObject` touches or goes past the left edge of the `frmMain`. On each loop iteration `shpObject` should move 10 twips.
66. Write a code segment that could be used to swap the integer values of variables `intThis` and `intThat`. You may assume that the two variables have been declared and that they both contain integer values. Declare any other necessary variables.
67. Write a code segment that uses a `For/Next` loop and the `InputBox` function to store 10 strings entered by the user into an array of strings named `strFirstNames` which has subscripts of 1 through 10. You must declare all variables properly.
68. Write a `Select Case` statement that uses a control variable `intGrade` to present a message box with the message "Fail" if `intGrade` is less than 60. If `intGrade` is greater than or equal to 60 then the message "Pass" should appear in a message box. You may assume that `intGrade` has been declared and that it holds a valid integer value.
69. Write a statement that writes the value of the variable `intHighScore` to record number 5 of a random access file opened as file number 2.
70. Write a `Do While` loop that reads all of the lines of a sequential access file opened as file #1 and stores each line of the file into a listbox named `lstItems`. Make sure that the loop continues until the exact end of the file has been reached. (Hint: Use the `EOF` function.) Declare any other necessary variables.
71. Write a `For Each` loop that will close all forms that are currently open in a project. Declare any necessary variables.
72. Write code for a whole form named `frmMain` that performs the following tasks. When the user clicks a command button called `cmdEnter`, a shape object named `shpVisible` to appear in the very top left corner of the form. In the form's `Load` event make sure that `shpVisible` is made invisible.
73. Write a general procedure named `DrawSquare` that draws a square in the center of a form named `frmMain`. The square's center should be in the exact center of the form & its width should be 80. You can assume that the form itself is a perfect square and that its `ScaleWidth` and `ScaleHeight` properties are both 100.
74. Write a function named `intDiceRoll` that randomly returns a whole number between or including 1 and 6.