

**Introduction to Programming using Visual Basic
CS0004
Sample Questions for Final Exam - Solutions
NOTE: Review Mid-term Sample Questions**

1. What is the output of the following program segment?

```
Dim numbers(3) As Double, h As Double = 0
Dim sr As IO.StreamReader = IO.File.OpenText("DATA.TXT")
For i As Integer = 0 To 3
    numbers(i) = Cdbl(sr.ReadLine)
Next
sr.Close()
For k As Integer = 0 to 3
    h += numbers(k)
Next
txtBox.Text = CStr(h)
```

Assume the four rows of the file DATA.TXT contain the following entries: 2, 4, 2, 3

$$\underline{2 + 4 + 2 + 3 = 11}$$

2. What is displayed in the message box by the following code?

```
Dim message As String
Dim teamName() As String = {"Packers", "Jets", "Seahawks"}
ReDim Preserve teamName(1)
message = teamName(1)
MsgBox(message)
```

"Jets"

3. A program contains the lines

```
Select Case list1(m)
    Case Is < list2(n)
        newList(r) = list1(m)
```

In this section of the program, the value of the m th element of the array $list1()$ will be added into the array $newlist()$ if which of the following is true?

- (A) the n th element of $list2()$ is less than the m th element of $list1()$
- (B) the n th element of $list2()$ is greater than the m th element of $list1()$
- (C) the n th element of $list2()$ is equal to the m th element of $list1()$
- (D) the m th element of $list1()$ is greater than the n th element of $list2()$

B

4. An array that is declared within a procedure is unknown in all other procedures. (T/F) **True**
5. A single array element may be passed to a Sub procedure. (T/F) **True**

6. Consider the following Structure definition and declaration. Which assignment statement would correctly record that player number 13 had three home runs so far this season?

```
Structure playerType
    Dim fullname As String
    Dim team As String
    Dim position As String
    Dim homerun As Double
    Dim average As Double
    Dim rbi As Double
End Structure

Dim player(45) As playerType
```

- (A) `player(13) = 3`
(B) `player(13).homerun(3)`
(C) `playerType(13).homerun = 3`
(D) `player(13).homerun = 3`
(E) None of the above

D

7. From the following list of unsorted items, how many passes of a bubble sort are required to sort the list in ascending order?

Groucho Harpo Zeppo Chico Gummo

4 maximum but 3 for this list

8. When using the *bubble sort* algorithm, after the first pass through the list, which of the following will be true?
- (A) the last item only is guaranteed to be in its proper position
(B) the first item only is guaranteed to be in its proper position
(C) the last two items are guaranteed to be in their proper positions
(D) the first two items are guaranteed to be in their proper positions

A

9. How many elements are in the array declared by

```
Dim myArray(3, 2, 3) As Double
```

4 * 3 * 4 = 16 * 3 = 48

10. `Dim distances(2,2) = {{0, 100, 300}, {100, 0, 200}, {300, 100, 0}}`

Given the above code fill in the following table representing the data in the distances array (note: make sure you can go the other direction)

0	100	300
100	0	200
300	100	0

11. Which of the following is an example of how a *filespec* for a sequential file would be written within a Visual Basic application?

- (A) C:\TEXT FILES\INCOME DATA.TXT
- (B) "C:\TEXT FILES\INCOME DATA.TXT"
- (C) "C:\TEXT FILES\INCOME DATA.*"
- (D) "C:\TEXT FILES\INCOME DATA.TXT"

D

12. The line of code

```
sw.Close()
```

when used with the line

```
sw = IO.File.CreateText(fileName)
```

completes which of the following tasks?

- (A) it closes the current application
- (B) it closes the current form
- (C) it closes the currently opened window of the application
- (D) it closes the file referred to by the variable name sw

D

13. Which of the following statements will result in an *IndexOutOfRangeException* if placed after the following line of code?

```
Dim arr(2) As Integer
```

- (A) `arr(3) = 2`
- (B) `arr(2) = 2`
- (C) `arr(1) = 2`
- (D) `arr(0) = 2`

A

14. Select the example statement below that would open a sequential file for output.

- (A) `Dim sw As IO.StreamWriter = IO.File.OpenText("INCOME DATA.TXT")`
- (B) `Dim sw As IO.StreamWriter = IO.File.CreateText("INCOME DATA.TXT")`
- (C) `Dim sr As IO.StreamReader = IO.File.OpenText("INCOME DATA.TXT")`
- (D) `Dim sr As IO.StreamReader = IO.File.AppendText("INCOME DATA.TXT")`

B

15. What is displayed in the text box by the following two lines of code?

```
Dim language() As String = {"V", "B", " ", "2", "0", "0", "5"}
txtBox.Text = Join(language, " ")
```

"VB 2005"

16. Describe what a CSV file is?

Expect to see comma delimited, sequential file, data.

17. What is displayed in the text box by the following two lines of code?

```
Dim l As String = "Test,1234,My,Test"
Dim a() As String = l.Split(",")
txtBox.Text = Join(a, " - ")
```

`"Test - 1234 - My - Test"`

18. Which of the following expressions refers to the contents of the last row of the list box?

- (A) `lstBox.Items(lstBox.Items.Count)`
- (B) `lstBox.Items(lstBox.Items.Count - 1)`
- (C) `lstBox.Items(Count)`
- (D) `lstBox.Items.Count`

B

19. 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?

```
picBox.CreateGraphics.DrawRectangle(Pens.Blue, x, y, w, h)
```

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

D

20. For a timer control named Timer1, the Timer1.Enabled event is triggered each time Timer1.Interval milliseconds elapses. (T/F) **False**
21. Describe to me how to make a ball bounce up and down on the screen, using what you know about visual basic and graphics. What form elements are going to be involved?

Need to mention how to move a ball around on the screen, change the x and y coordinates. Need to know how to determine if the ball hits the edges. Once the ball hits the edge what should you do? You should change direction the ball is moving. How do you change directions? Do you need to clear the picture box? How frequently? The more general question is how does animation work?

22. When will the following code output "Yes" in the text box (txtOutput), assume that chkBox is a checkbox?

```
If chkBox.Checked = True Then  
    txtOutput.Text = "Yes"  
End If
```

When the check box is selected

23. 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