

**Introduction to Programming using Visual Basic  
CS0004  
Sample Mid-term Exam**

1. What are the main parts of a computer?
2. What is debugging?
3. What is the difference between a program and an algorithm?
4. Which of the following statements is a valid assignment statement?
  - (A) **txtBox = "Hello World"**
  - (B) **"Hello World" = txtBox.Text**
  - (C) **txtBox.Text = "Hello World"**
  - (D) **Text.txtBox = "Hello World"**
5. Which of the following statements specifies that the color of the text in txtBox be red?
  - (A) **txtBox.Text = Color.Red**
  - (B) **txtBox.ForeColor = Color.Red**
  - (C) **txtBox.ForeColor = Red**
  - (D) **txtBox = Color.Red**
6. What effect will the following statement have?  
**lblOne.Visible = False**
  - (A) Enable lblOne
  - (B) Delete lblOne
  - (C) Make lblOne invisible
  - (D) It is not a valid Visual Basic statement.
7. What will be the contents of the variable x after the following statement is executed?  
**x = Math.Sqrt(((9 + 7) / (4 \* 2)) + 2)**
8. The symbol for the string concatenation operator is
  - (A) @
  - (B) &
  - (C) %
  - (D) #

9. What will be displayed when the button is clicked? (note the use of ByRef and ByVal)

```
Private Sub btnDisplay_Click(...) Handles btnDisplay.Click
```

```
    Dim x, y As String  
    x = "tin"  
    y = "can"  
    Swap(x, y)  
    txtOutput.Text = x & " " & y  
End Sub
```

```
Sub Swap(ByRef x As String, ByVal y As String)
```

```
    Dim temp As String  
    temp = x  
    x = y  
    y = temp  
End Sub
```

10. Write a function that converts all integers to a positive integer, in mathematics this is referred to as the absolute value function. You can't use the built-in function.
11. What would the function declaration look like for a function that converts meters to yards? (note: you don't need to write the function, just the declaration)
12. What will be the output when the button is clicked?

```
Private Sub btnDisplay_Click(...) Handles btnDisplay.Click
```

```
    Dim first, middle, last As String  
    first = "Augusta"  
    middle = "Ada"  
    last = "Byron"  
    Initials(first, middle, last)  
End Sub
```

```
Sub Initials(ByVal c As String, ByVal b As String, _  
    ByVal a As String)
```

```
    Dim theInitials As String  
    theInitials = a.Substring(0, 1) & b.Substring(0, 1) & _  
    c.Substring(0, 1)  
    txtBox.Text = theInitials  
End Sub
```

13. Create a Visual Basic Statement that evaluates to true only when:

x is greater than 10 and less than 100

pass is "mypassword" or pass is empty

x is less than y and y is greater than 100 or y less than 100

14. Evaluate the following

"1st Place" < "2nd Place"

(2 < n) Or (n < 5) ; when n is 4

(50 mod 2) = 0

x.Length + 10 >= 21 ; when x is "pittsburgh"

15. Which statement is true?

(A) "Ford" < "Ford"

(B) "Chevy" > "Chevy"

(C) "GMC" <= "GMC"

(D) "Oldsmobile" < "Oldsmobile"

16. **Asc("A")** is 65. What is **Asc("C")**?

17. What will be displayed by the following program when the button is clicked?

```
Private Sub btnDisplay_Click(...) Handles btnDisplay.Click
```

```
Dim a, b, c, x As Double
```

```
a = 5
```

```
b = 3
```

```
c = 6
```

```
If a > c Then
```

```
x = 1
```

```
Else
```

```
If b > c Then
```

```
x = 2
```

```
Else
```

```
x = 3
```

```
txtBox.Text = CStr(x)
```

```
End If
```

```
End If
```

```
End Sub
```

18. What word(s) will appear in the list box when the button is clicked?

```
Private Sub btnDisplay_Click(...) Handles btnDisplay.Click
```

```
Dim num As Integer = 5
```

```
If num = 2 Then
```

```
lstBox.Items.Add("Two")
```

```
Elseif num > 3 Then
```

```
lstBox.Items.Add("Great")
```

```
Elseif num = 5 Then
```

```
lstBox.Items.Add("Equal")
```

```
End If
```

```
End Sub
```

19. What can be determined about the following code, not knowing the value of num?

```
Select Case num  
  Case 6, 7, 11  
    IstBox.Items.Add("W")  
  Case Is < 7  
    IstBox.Items.Add("X")  
  Case Is > 5  
    IstBox.Items.Add("Y")  
  Case Else  
    IstBox.Items.Add("Z")  
End Select
```

20. What is displayed in the text box when the button is clicked?

```
Private Sub btnDisplay_Click(...) Handles btnDisplay.Click  
  Dim word As String = "Alphabet"  
  Dim abbreviation As String = ""  
  For i As Integer = 0 To word.Length - 1  
    If word.Substring(i, 1).ToUpper <> "A" Then  
      abbreviation &= word.Substring(i, 1)  
    End If  
  Next  
  txtBox.Text = abbreviation  
End Sub
```

21. What will be displayed when the following lines are executed?

```
txtBox.Clear()  
For k As Integer = 1 To 3  
  txtBox.Text &= "ABCD".Substring(4 - k, 1)  
Next
```

22. What will be the output of the following program when the button is clicked?

```
Private Sub btnDisplay_Click(...) Handles btnDisplay.Click  
  Dim myVar As String = ""  
  Dim letter As String = ""  
  Dim sr As IO.StreamReader = IO.File.OpenText("DATA.TXT")  
  Do While (sr.Peek <> -1) And (letter <> "g")  
    letter = CStr(sr.ReadLine)  
    myVar = letter & myVar  
  Loop  
  txtBox.Text = myVar  
End Sub
```

Assume the nine lines of the file DATA.TXT contain the following entries: a, b, c, d, e, f, g, h, i.

23. After the following Dim statement is executed, how many subscripted variables called *myvar(i)* will be available?

**Dim myVar(7) As Double**

24. What is the difference between the following two loops?

**Do While x < 5**

**txtBox.Text = txtBox.Text & "a"**

**x += 1**

**Loop**

-----

**Do**

**txtBox.Text = txtBox.Text & "a"**

**x += 1**

**Loop While x < 5**

25. Given an array, write code that sequentially searches the array for a given value?