**Name:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ CSI/Chapter 3 – Section 3.3**

|  |  |
| --- | --- |
| **In Exercises 1 through 6, evaluate the numeric expression without the computer.**1. 3\*42. 7^23. 1/(2^3)4. 3 + (4\*5)5. (5 - 3)\*46. 3\*((-2)^5)  | **In Exercises 7 through 10, evaluate the Mod operation.**7. 6 Mod 28. 14 Mod 49. 7 Mod 310. 5 Mod 5 |
| **In Exercises 11 through 16, determine whether the name is a valid variable name.**11. sales.200612. room&Board13. fOrM\_104014. 1040B15. expenses?16. INCOME 2006  | **In Exercises 17 through 22, evaluate the numeric expression where a = 2, b = 3, and c = 4.**17. (a\*b) + c18. a\*(b + c)19. (1 + b)\*c20. a^c21. b^(c - a)22. (c - a)^b |
| **In Exercises 23 through 28, write an event procedure to calculate and display the value of the****expression.**23. 7•8 + 524. (1 + 2•9)325. 5.5% of 2026. 15 - 3(2 + 34)27. 17(3 + 162)28. $4\frac{1}{2}-3\frac{5}{8}$ | **In Exercises 29 through 34, find the value of the given function.**29. Int(10.75)30. Int(9 - 2)31. Math.Sqrt(3\*12)32. Math.Sqrt(64)33. Math.Round(3.1279,3)34. Math.Round(-2.6) |
| **In Exercises 35 through 40, find the value of the given function where a and b are numeric variables of type Double, a = 5 and b = 3.**35. Int(-a/2)36. Math.Round(a / b)37. Math.Sqrt(a - 5)38. Math.Sqrt(4 + a)39. Math.Round(a + .5)40. Int(b \* .5) |  |

**Name:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ CSI/Chapter 3 – Section 3.3**

**In Exercises 1- 8, determine the output displayed in the list box by the lines of code.**

1. Dim amount As Double

amount = 10

lstOutput.Items.Add(amount - 4)

2. Dim a, b As Integer

a = 4

b = 5 \* a

lstOutput.Items.Add(a + b)

3. Dim n As Integer = 7

n += 1

With lstOutput.Items

.Add(1)

.Add(n)

.Add(n + 1)

End With

4. Dim num As Integer = 5

num = 2 \* num

lstOutput.Items.Add(num)

5. Dim a, b As Integer

lstOutput.Items.Add(a + 1)

a = 4

b = a \* a

lstOutput.Items.Add(a \* b)

6. Dim tax As Double

tax = 200

tax = 25 + tax

lstOutput.Items.Add(tax)

7. Dim x As Double = 3

x += 2

lstOutput.Items.Add(x \* x)

lstOutput.Items.Add(x + 3 \* x)

8. Dim n As Double = 2, m As Double = 5

lstOutput.Items.Add(3 \* n)

n += n

With lstOutput.Items

.Add(n + m)

.Add(n - m)

End With

**In Exercises 9 - 14, identify the errors.**

9. Dim a, b, c As Double

a = 2

b = 3

a + b = c

lstOutput.Items.Add(c)

10. Dim a, b, c, d As Double

a = 2

b = 3

c = d = 4

lstOutput.Items.Add(5((a+b)/(c+d))

11. Dim balance, deposit As Double

balance = 1,234

deposit = $100

lstOutput.Items.Add(balance + deposit)

12. Dim interest, balance As Double

0.05 = interest

balance = 800

lstOutput.Items.Add(interest\*balance)

13. Dim 9W As Double

9W = 2 \* 9W

lstOutput.Add(9W)

14. Dim n As Double = 1.2345

lstOutput.Items.Add(Round(n, 2))

**In Exercises 15 and 16, complete the table by filling in the value of each variable after each line is executed.**

15.

|  |  |  |
| --- | --- | --- |
|  | x | y |
| Private Sub btnEvaluate\_Click(...) Handles btnEvaluate.Click |  |  |
|  Dim x, y As Double |  |  |
|  x = 2 |  |  |
|  y = 3 \* x |  |  |
|  x = y + 5 |  |  |
|  lstResults.Items.Clear() |  |  |
|  lstResults.Items.Add(x + 4) |  |  |
|  y = y + 1 |  |  |
| End Sub |  |  |

16.

|  |  |  |  |
| --- | --- | --- | --- |
|  | bal  | inter | withDr |
| Private Sub btnEvaluate\_Click(...) Handles btnEvaluate.Click |  |  |  |
|  Dim bal, inter, withDr As Double |  |  |  |
|  bal = 100 |  |  |  |
|  inter = 0.05 |  |  |  |
|  withDr = 25 |  |  |  |
|  bal += inter \* bal |  |  |  |
|  bal = bal - withDr |  |  |  |
| End Sub |  |  |  |

**Name:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ CSI/Chapter 3 – Section 3.3**

**SECTION 3.3 – LAB: write an event procedure to solve the problem and display the answer in a**

**list box. The program should use variables for each of the quantities.**

1. The following steps calculate a company's break-even point, the number of units of goods the company must manufacture and sell in order to break even:

a. Declare all variables.

b. Assign the value 5000 to the variable fixedCosts.

c. Assign the value 8 to the variable pricePerUnit.

d. Assign the value 6 to the variable costPerUnit.

e. Assign the value fixedCosts divided by (the difference of pricePerUnit and costPerUnit)

to the variable breakEvenPoint.

f. Display the value of the variable breakEvenPoint in a list box.

2. The following steps calculate the balance at the end of three years when $100 is deposited at the beginning of each year in a savings account at 5% interest compounded annually:

a. Declare all variables.

b. Assign the value 100 to the variable balance.

c. Increase the variable balance by 5% of its value, and add 100.

d. Increase the variable balance by 5% of its value, and add 100.

e. Increase the variable balance by 5% of its value.

f. Display the value of the variable balance in a list box.

3. The following steps calculate the percentage profit from the sale of a stock:

a. Declare all variables.

b. Assign the value 10 to the variable purchasePrice.

c. Assign the value 15 to the variable sellingPrice.

d. Assign, to the variable percentProfit, 100 times the value of the difference between

sellingPrice and purchasePrice divided by purchasePrice.

e. Display the value of the variable percentProfit in a list box.

4. Suppose a ball is thrown straight up in the air with an initial velocity of 50 feet per second and an initial height of

 5 feet. How high will the ball be after 3 seconds? Note: The height after t seconds is given by the

expression -16t2 + v0t + h0,where v0 is the initial velocity and h0 is the initial height.

5. According to FHA specifications, each room in a house should have a window area equal to at least 10 percent of the floor area of the room. What is the minimum window area for a 14-ft by 16-ft room?