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| Name |  |  |
| Score | / 20 |  |  |
| Update Value |  |  |
| Make all corrections and resubmit to earn update points |

Programming Logic - Beginning

152-101

Unit 5

- ¼ point for each incorrect answer.

Most answers can be found in Chapter 4 of the book and/or my Unit 5 Instructor’s Notes. If you can’t find the answers there—try Google.

Review Questions and Exercises:

|  |
| --- |
| **Fill-in-the-Blank** |
| 1. The Click here to enter answer statement can cause other statements to execute under certain conditions.
 |
| 1. A(n) Click here to enter answer operator determines if a specific relationship exists between two values.
 |
| 1. Relational expressions can only be evaluated as Click here to enter answer or Click here to enter answer.
 |
| 1. A(n) Click here to enter answer is a Boolean variable that signals when some condition exists in the program.
 |
| 1. The Click here to enter answer statement will execute one group of statements if the condition is true, and another group of statements if the condition is false.
 |
| 1. The Click here to enter answer statement is like a chain of If…Then…Else statements. They perform their tests, one after the other until one of them is found to be true.
 |
| 1. A Click here to enter answer If statement is an If statement within the true or false logic of another If statement.
 |
| 1. Click here to enter answer operators connect two or more relational expressions into one or reverse the logic of an expression.
 |
| 1. The Click here to enter answer method returns the uppercase equivalent of a string.
 |
| 1. The Click here to enter answer method returns the lowercase equivalent of a string.
 |
| 1. You can display message boxes with the Click here to enter answer method.
 |
| 1. In a(n) Click here to enter answer statement, one of several possible actions is taken, depending on the value of an expression.
 |
| 1. Click here to enter answer usually appear in groups and allow the user to select one of several possible outcomes.
 |
| 1. Click here to enter answer may appear alone or in groups and allow the user to make yes/no, or on/off selections.
 |
| 1. A Click here to enter answer variable may be accessed by statements in any procedure in the same file as the variable’s declaration.
 |

**Multiple Choice**  (highlight the BEST answer)

|  |
| --- |
| 1. Relational operators allow you to \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ numbers.
2. Add
3. Multiply
4. Compare
5. Execute
 |
| 1. This statement can cause other program statements to execute only under certain conditions.
2. MessageBox.Show
3. Decide
4. If
5. Execute
 |
| 1. This is a variable, usually a Boolean, that signals when a condition exists.
2. Relational Operator
3. Flag
4. Arithmetic Operator
5. Float
 |
| 1. This statement is like a chain of *If*  statements. They perform their tests, one after the other, until one of them is found to be true.
2. If … Then
3. If … Then … Else If
4. Chain … If
5. Relational
 |
| 1. A trailing \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ placed at the end of an *If … Then …ElseIf*  statement provides default action when none of the *ElseIf*  statements are true.
2. If
3. Select
4. Otherwise
5. Else
 |
| 1. When an *If* statement is placed within the conditionally executed code of another *If* statement, this is known as:
2. A nested If statement
3. A complex If statement
4. A compound If statement
5. An invalid If statement
 |
| 1. This operator connects two expressions into one. One or both expressions must be true for the overall expression to be true. It is only necessary for one to be true, and it does not matter which.
2. &&
3. | |
4. !=
5. !
 |
| 1. This operator connects two expressions into one. Both expressions must be true for the overall expression to be true.
2. &&
3. | |
4. !=
5. !
 |
| 1. This operator reverses the logical value of an expression. It makes a true expression false and a false expression true.
2. &&
3. | |
4. !=
5. !
 |
| 1. When determining whether a number is inside a numeric range, it’s best to use this logical operator.
2. &&
3. | |
4. !=
5. !
 |
| 1. When determining whether a number is outside a range, it’s best to use this logical operator.
2. &&
3. | |
4. !=
5. !
 |
| 1. In code you should test this property of a radio button or check box to determine whether it is selected.
2. Selected
3. Checked
4. On
5. Toggle
 |

**True or False.** Highlight T or F.
 If the answer is false, write why the answer is false

|  |  |
| --- | --- |
| T F | 1. It is not possible to write an expression that contains more than one logical operator.

Complete if false |
| T F | 1. It is not possible to write expressions that contain math, relational and logical operators.

Complete if false |
| T F | 1. You may use the relational operators to compare strings.

Complete if false |
| T F | 1. Clicking on a radio button selects it, and leaves any other selected radio button in the same group selected as well

Complete if false |
| T F | 1. Radio buttons that are placed inside a group box are treated as one group, separate and distinct from any other groups of radio buttons.

Complete if false |
| T F | 1. When a group of radio buttons appears on a form (outside of a group box), any number of them can be selected at any time.

Complete if false |
| T F | 1. You may have one or more check boxes on a form, and any number of them selected at any given time.

Complete if false |

|  |
| --- |
| **Short Answer** 1. Describe the difference between the *If… Else If*  statement and a ***series*** of *If* statements (see page 245 for an example of a series of If statements).

Click here to enter answer |
| 1. In an *If… Then…ElseIf*  statement, what is the purpose of the trailing *Else*?

Click here to enter answer |
| 1. What is a flag and how does it work?

Click here to enter answer |
| 1. Briefly describe how the *&&* operator works.

Click here to enter answer |
| 1. Briefly describe how the *| |* operator works.

Click here to enter answer |
| **What Do You Think?** 1. Explain why you cannot convert the following *If…Then…ElseIf* statement into a *switch* statement.

  if (sngTemperature == 100)  x = 0; else if(intPopulation > 1000) x = 1; else if(sngRate < .1) x = -1; //end ifClick here to enter answer |

|  |
| --- |
| **Find the Errors** 1. What is syntactically incorrect in each of the following statements?

 a. if x > 100 MessageBox.Show ("Invalid Data"); //end if Click here to enter answer b. if (x = 100) MessageBox.Show ("They match"); //end if Click here to enter answer |
|  c. if (string1 < string2) MessageBox.Show ("String 1 comes first"); //end if Click here to enter answer d. switch(colorCode)case 1:MessageBox.Show("Red");break;case 2:MessageBox.Show("Green");break;case 3:MessageBox.Show("Blue");break;//end switch Click here to enter answer |
|  |

**Algorithm Workbench**

 Indent properly

1. Write an *If* statement that assigns 0 to x when y is equal to 20.

Click here to enter answer

1. Write an *If* statement that multiplies decPayRate by 1.5 when hours is greater than 40.

Click here to enter answer

1. Write an *If* statement that assigns 0.2 to decCommissionRate when sales is greater than or equal to $10,000.00.

Click here to enter answer

1. Write an *If* statement that sets the variable fees to 50 when the Boolean variable blnIsMax equals *True*.

Click here to enter answer

1. Write an *If* statement that assigns 1 to x when y is equal to 100. Otherwise it should assign 0 to x.

Click here to enter answer

1. Write an *If* statement that displays the message *The number is valid* if the variable dblSpeed is within the range 0 through 200.

Click here to enter answer

1. Write an *If* statement that prints the message *The number is invalid* if the variable dblSpeed is outside the range 0 through 200.

Click here to enter answer

1. Convert the following *If* statement into a *Switch*  statement.

 if (intSelection == 1)

 MessageBox.Show ("Pi times radius squared");

 else if (intSelection == 2)

 MessageBox.Show ("Length times width");

 else if (intSelection == 3)

 MessageBox.Show ("Pi times radius squared times height");

 else if (intSelection == 4)

 MessageBox.Show ("Well okay then, good bye! ");

 else

 MessageBox.Show ("Not good with numbers, eh? ");

 //end if

Click here to enter answer