EXERCISE 3.1 (2.5 HOURS)

**Assessment Preparation Checklist:**

To prepare for the assessment, read Chapter 6 in the textbook, *Starting Out with Visual Basic® 2012*. This chapter examines how to write general purpose procedures and functions. In addition, go through the lesson for this module that explores how to create, call, and pass arguments to the procedures as well as various techniques for debugging applications that use them.

**Title: Writing Functions**

Answer the following questions:

1. Locate the errors in the following code examples:
2. Sub DisplayValue(Dim intNumber As Integer)

'This displays a value.

MessageBox. Show( intNumber.ToString())

End Sub

1. Sub Greeting(ByVal strName As String)

'This procedure displays a greeting.

MessageBox. Show("Hello" & strName)

End Sub

The following is a call to the procedure:

Greeting()

1. Function Product(ByVal intNum1 As Integer, ByVal intNum2

As Integer) As Integer

Dim intResult As Integer

intResult = intNum1 \* intNum2

End Function

1. Sub Sum(ByVal intNum1 As Single, ByVal intNum2 As Single)

As Single

Dim intResult As Single

intResult = intNum1 + intNum2

Return intResult

End Sub

1. The following statement calls a function named Half that returns a Decimal, which is half of the argument. Write the function.

decResult = Half( intNumber)

1. An application contains the following function:

Function Square( ByVal intValue As Integer) As Integer

Return intValue ^ 2

End Function

Write a statement that passes the value 4 to this function and assigns its return value to a variable named intResult.

1. Write a procedure named TimesTen that accepts a single Integer argument. When the procedure is called, it should display the product of its argument multiplied by 10 in a message box.
2. Suppose you want to write a procedure to perform an operation. How do you decide if the procedure should be a procedure or a function?
3. If you are writing a procedure that accepts an argument and you want to make sure that the procedure cannot change the value of the argument, what do you do?
4. When debugging an application, why would you not want to single- step through every procedure or function?
5. When a procedure or function accepts multiple arguments, does it matter what order the arguments are passed in?
6. How do you return a value from a function?
7. An application contains the following procedure:

Sub Display( ByVal intArg1 As Integer, ByVal strArg2 As String, ByVal sngArg3 As Single)

MessageBox. Show(" Here are the values: " &

intArg1. ToString() & " " &

strArg2 & " " & sngArg3. ToString())

End Sub

Write a statement that calls the procedure and passes it the following variables:

* Dim strName As String
* Dim intAge As Integer
* Dim sngIncome As Single

**Submission Requirements:**

Submit your answers in a Microsoft Word document.

**Evaluation Criteria:**

The [exercise rubric](#h.30j0zll) will be used to evaluate the assessment.