Homework Assignment #11

Points: 20 points
Due Date: April 29, 2020 - 11:59pm
Submissions: Canvas

GOALS:

- To gain practice writing subroutines and functions and working with arrays.

Problem

Write a VB console application, called array-test, that loads a one-dimensional array of Doubles, processes the array by calling sub programs, and outputs the array using a subroutine. To meet these goals you will need to write the following:

- Write a subroutine using the interface line below to output the array elements, all on the same line. Format each value with 4 spaces. Use a For-Next loop.
  
  Private Sub DisplayArray(values() As Double)

- Write a function using the interface line below to return the sum of the array elements. Use a For-Next loop.
  
  Private Function CalculateSum(values() As Double) As Double

- Write a subroutine using the interface line below that scales, or multiplies, each array element by a given value.
  
  Private Sub ScaleArray(values() As Double, scaleFactor As Double)

The main should function as follows:

1. Begin by declaring a one-dimensional array of 5 doubles. Name this array numbers. Prompt and receive the five initial values using a For-Next loop.
2. Print out these values to the terminal screen by calling the appropriate subroutine. The command from Main should be: DisplayArray(numbers)
3. Calculate the sum of the array elements and print this to the terminal screen. Utilize the function that you have written. Have the output exactly match the following:
   
   The sum of the array elements is: xx  {Note: xx is the summation.}
4. Scale the values in the array by half (0.5). Call the appropriate subroutine and pass the scale factor.
5. Print out the array values to the terminal screen in the same manner as step #2.
6. Repeat step #3.

What to do

- Write your program making sure to properly document it. Remember that all subroutines and functions need an appropriate header.
- Compile, debug, and test your program.
- Take a screen shot of a test run.
- Copy your source code and the screen shot into an MS word document called Hwk11-yourLastName.docx.

Submission:

1) Copy and paste your source code into a word document HW11-yourLastName.docx. Insert the screenshot taken into this document following the source code.
2) Upload your file to Canvas.