Lab 07

Declare two single dimensional array with the size given by the user and find. Display the following,
Scalar Sum (Adding values of each element of an array)
Vector Sum (Adding values of each relative elements of an array and store them in third array)
Vector Product (Multiply values of each relative elements of an array and store them in third array)
Scalar Product (Multiply values of each relative elements of an array and store them in third array. After placing the values in third array add all the values)

```
using System;


namespace ConsoleApplication1
{
   public class MyClass
   {
      public void FindScalarSumVectorSumVectorProductScalarProduct(int[] array1, int[] array2)
      {


         int scalarSum = 0;
         for (int i = 0; i < array1.Length; i++)
         {
            scalarSum += array1[i];
         }



         int[] vectorSum = new int[array1.Length];
         for (int i = 0; i < array1.Length; i++)
         {
            vectorSum[i] = array1[i] + array2[i];
         }
```

```
        int[] vectorProduct = new int[array1.Length];
        for (int i = 0; i < array1.Length; i++)
        {
            vectorProduct[i] = array1[i] * array2[i];
        }


        int scalarProduct = 0;
        for (int i = 0; i < array1.Length; i++)
        {
            scalarProduct += vectorProduct[i];
        }


        Console.WriteLine("The scalar sum is " + scalarSum);
        Console.WriteLine("The vector sum is " + string.Join(", ", vectorSum));
        Console.WriteLine("The vector product is " + string.Join(", ", vectorProduct));
        Console.WriteLine("The scalar product is " + scalarProduct);
    }
}

class Program
{
    static void Main(string[] args)
    {
        // Get the user input for the array sizes.
        Console.WriteLine("Enter the array1 size: ");
```

```
        int array1Size = int.Parse(Console.ReadLine());
        Console.WriteLine("Enter the array2 size: ");
        int array2Size = int.Parse(Console.ReadLine());


        int[] array1 = new int[array1Size];
        int[] array2 = new int[array2Size];


        for (int i = 0; i < array1Size; i++)
        {
           Console.WriteLine("Enter a value for array1[" + i + "]: ");
           array1[i] = int.Parse(Console.ReadLine());
        }
        for (int i = 0; i < array2Size; i++)
        {
           Console.WriteLine("Enter a value for array2[" + i + "]: ");
           array2[i] = int.Parse(Console.ReadLine());
        }


        MyClass myClass = new MyClass();
        myClass.FindScalarSumVectorSumVectorProductScalarProduct(array1, array2);


        Console.ReadKey();
      }
   }
}
```