Tutorial 07
Q1

```
using System;

namespace ArrayOperations
{
    class MainClass
    {
        static void Main(string[] args)
        {
            Console.WriteLine("Enter the first array size: ");
            int array1Size = int.Parse(Console.ReadLine());
            Console.WriteLine("Enter the second array size: ");
            int array2Size = int.Parse(Console.ReadLine());


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

            Console.WriteLine("Enter the values for the first array: ");
            for (int i = 0; i < array1Size; i++)
            {
                array1[i] = int.Parse(Console.ReadLine());
            }
            Console.WriteLine("Enter the values for the second array: ");
            for (int i = 0; i < array2Size; i++)
            {
                array2[i] = int.Parse(Console.ReadLine());
            }

            int scalarSum = 0;
            for (int i = 0; i < array1Size; i++)
            {
                scalarSum += array1[i];
            }


            int[] vectorSum = new int[array1Size];
            for (int i = 0; i < array1Size; i++)
            {
                vectorSum[i] = array1[i] + array2[i];
            }


            int[] vectorProduct = new int[array1Size];
            for (int i = 0; i < array1Size; i++)
            {
                vectorProduct[i] = array1[i] * array2[i];
            }

            int scalarProduct = 0;
            for (int i = 0; i < array1Size; i++)
            {
                scalarProduct += vectorProduct[i];
            }
```

```
            Console.WriteLine("Scalar sum: {0}", scalarSum);
            Console.WriteLine("Vector sum: ");
            for (int i = 0; i < vectorSum.Length; i++)
            {
                Console.WriteLine("{0}", vectorSum[i]);
            }
            Console.WriteLine("Vector product: ");
            for (int i = 0; i < vectorProduct.Length; i++)
            {
                Console.WriteLine("{0}", vectorProduct[i]);
            }
            Console.WriteLine("Scalar product: {0}", scalarProduct);
        }
    }
}
```

Q2

```
using System;

namespace AnimalDog
{
    class Animal
    {
        public void AnimalSound()
        {
            Console.WriteLine("I am Animal");
        }
    }

    class Dog : Animal
    {
        public void DogSound()
        {
            Console.WriteLine("I have four legs");
        }
    }

    class MainClass
    {
        static void Main(string[] args)
        {

            Dog dog = new Dog();


            dog.AnimalSound();


            dog.DogSound();
        }
    }
}
```