Arrays

Solve the problems using C#.

The array created in the problem 1 should be used when solving following problems, if not stated otherwise.

1. Write a program that asks the user for a natural number n. Create a new **array** of the length n that contains random generated numbers.

   To generate a random integer use

   ```
   Random r = new Random();
   int myNumber = r.Next(10);
   ```

   Assume that the input is a number, but make sure that it is a natural number > 1.

2. Define a method called **Sum** that takes an array of integers as an input parameter and returns the sum of the array. Apply the method to the array and print the output.

3. Define a method called **Product** that takes an array of integers as an input parameter and returns the product of the array. Apply the method to the array and print the output.

4. Define a method called **SumEven** that takes an array of integers as an input parameter and returns the sum of the elements on the even positions in the array. Apply the method to the array and print the output.

5. Define a method called **SumOdd** that takes an array of integers as an input parameter and returns the sum of the elements on the odd positions in the array. Apply the method to the array and print the output.

6. Define a method called **SumGrFive** that takes an array of integers as an input parameter and returns the sum of the elements that are ≥ 5. Apply the method to the array and print the output.

7. Define a method called **SumGrThanX** that modifies the previous method by adding another integer parameter **x**. Method should return the sum of all elements that are greater than given x. This method is a generalization of the previous one. Apply the method to the array and print the output.