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Course 2\Fifth Lab

Ex1: Write a C# program to read and display elements of an array with size equals to 4 integer numbers then display the array in reversed order.

```
namespace ConsoleApplication3
{
    class Program
    {
        static void Main(string[] args)
        {
            const int size = 4;
            int[] a = new int[size];
            // TO READ ARRAY
            for (int i = 0; i < size; i++)
                a[i] = Int16.Parse(Console.ReadLine());

            // TO DISPLAY THE ELEMENTS OF AN ARRAY
            for (int i = 0; i < size; i++)
                Console.WriteLine("[" + i + "]= " + a[i]);

            // PRINT IN REVERSED ORDER
            Console.WriteLine("THE ARRAY IN REVERSED ORDER");
            for(int i=size-1;i>=0;i--)
                Console.WriteLine("[" + i + "]= " + a[i]);

            Console.ReadLine();

        }
    }
}
```

The Output:

Ex2: **Write a C# program read an array of 4 integer numbers then create an array which elements are reversed to the original array, display the two arrays.**

```csharp
namespace ConsoleApplication3
{
    class Program
    {
        static void Main(string[] args)
        {
            const int size = 4;
            int[] a = new int[size];
            int[] b = new int[size];
            // TO READ ARRAY
            for (int i = 0; i < size; i++)
                a[i] = Int16.Parse(Console.ReadLine());

            // TO DISPLAY THE ELEMENTS OF AN ARRAY
            Console.WriteLine("The Elements of Original Array");
            for (int i = 0; i < size; i++)
                Console.WriteLine("[" + i + "]= " + a[i]);

            // CREAT REVERESED ARRAY FROM ORIGINAL ARRAY
            int loc = size-1;
            for (int j = 0; j < size; j++)
            {
                b[j] = a[loc];
                loc--;
            }

            //DISPLAY THE NEW ARRAY
            Console.WriteLine("The Elements of Reveresed Array");
            for (int j = 0; j < size; j++)
                Console.WriteLine("[" + j + "]= " + b[j]);

            Console.ReadLine();

        } } }
```

The Output:

```
66
23
10
125
The Elements of Original Array
[0]= 66
[1]= 23
[2]= 10
[3]= 125
The Elements of Reveresed Array
[0]= 125
[1]= 10
[2]= 23
[3]= 66
```

Ex2: **Write a C# program read an array of 4 integer numbers then create an array which elements are reversed to the original array, display the two arrays.**

Ex3: **Write a C# program to read and display elements of an array with size equals to 5 then convert each negative number by its square.**

```
namespace ConsoleApplication3
{
    class Program
    {

        static void Main(string[] args)
        {
            const int size = 5;
            double[] a = new double[size];
            //read the elements of an array
            Console.WriteLine("Enter The Elements");
            for (int i = 0; i < size; i++)
                a[i] = Double.Parse(Console.ReadLine());
            //display the array's elements
            Console.WriteLine("The Array's Elements");
            for (int i = 0; i < size; i++)
                Console.WriteLine("[" + i + "]" + a[i]);
            //convert each negative number by its square
            for (int i = 0; i < size; i++)
                if (a[i] < 0)
                    a[i] = a[i]*a[i];
            //display the array after converting the negative number
            Console.WriteLine("The Array Afer Converting the Negative
                             Number");
            for (int i = 0; i < size; i++)
                Console.WriteLine(a[i]);
            Console.ReadLine();

        }
    }
}
```

The Output:

```
Enter The Elements
1
-3
2
-4
-9
The Array's Elements
[0]1
[1]-3
[2]2
[3]-4
[4]-9
The Array Afer Converting the Negative Number
1
9
2
16
81
```

Ex4: **Write a C# program to read and display elements of an array with size equals to 6 integer numbers then find:**

1. **The average of numbers in odd locations.**
2. **The average of odd numbers in the array.**
3. **The maximum number in this array with its location.**

```csharp
namespace ConsoleApplication3
{
    class Program
    {

        static void Main(string[] args)
        {
            const int size = 6;
            int[] a = new int[size];
            double s=0,c=0;
            // TO READ ARRAY
            for (int i = 0; i < size; i++)
                a[i] = Int16.Parse(Console.ReadLine());

            // TO DISPLAY THE ELEMENTS OF AN ARRAY
            for (int i = 0; i < size; i++)
                Console.WriteLine("[" + i + "]= " + a[i]);
            // THE AVERAGE OF NUMBERS IN ODD LOCATIONS
            for (int i = 1; i<size; i += 2)
            {
                s = s + a[i];
                c++;
            }
            double av1 = s / c;
            // THE AVERAGE OF ODD NUMBERS IN THE ARRAY
            s = 0;
            c = 0;
            for(int i=0;i<size;i++)
                if (a[i] % 2 == 1)
                {
                    s = s + a[i];
                    c++;
                }
            double av2 = s / c;
            // FIND THE MAXIMUM NUMBER WITH ITS LOCATION
            int max = a[0];
            int loc = 0;
            for(int i=1;i<size;i++)
                if (a[i] > max)
                {
                    max = a[i];
                    loc = i;
                }
```

```
            Console.WriteLine("The Avearge of numbers in odd locations : "
                            + av1);
            Console.WriteLine("The Avearge of odd numbers : " + av2);
            Console.WriteLine("The maximum number : " + max+" In Location :
                            "+loc);
            Console.ReadLine();
        }
    }
}
```

The Output:

```
6
3
11
5
9
10
[0]= 6
[1]= 3
[2]= 11
[3]= 5
[4]= 9
[5]= 10
The Avearge of numbers in odd locations : 6
The Avearge of odd numbers : 7
The maximum number : 11 In Location : 2
```

Homeworks:

Write a C# program to read and display elements of an array with size equals to 5 integer numbers then find:

1. the minimum value with its location.

2. the sum of even numbers in the array