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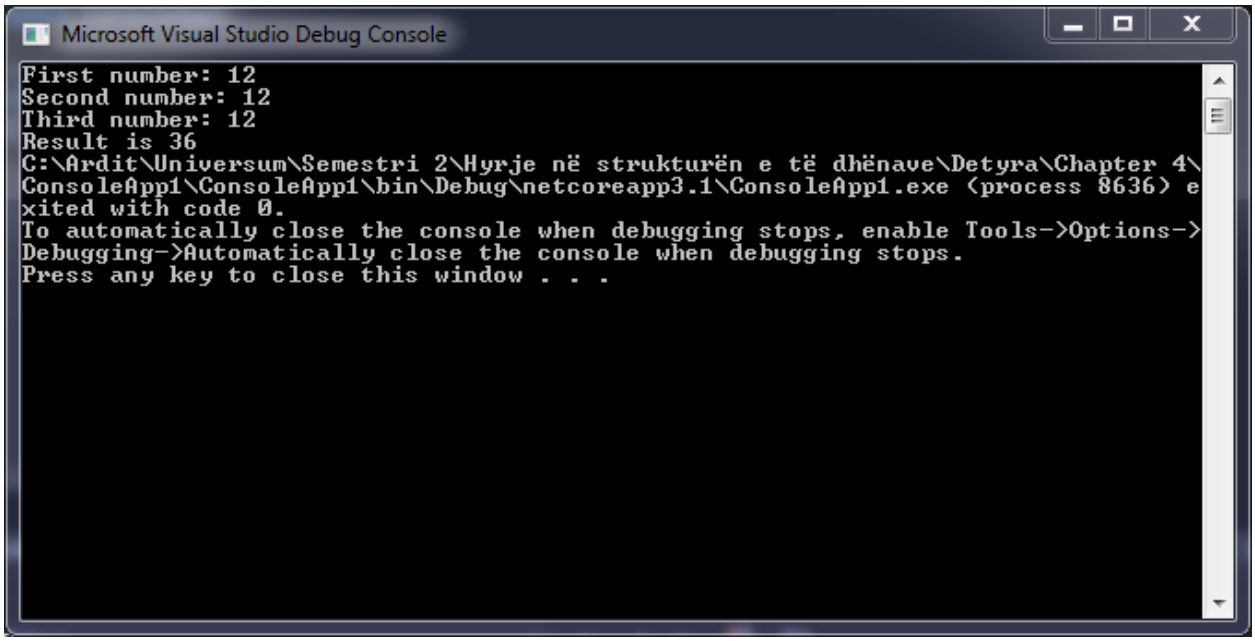
Drejtimi: Shkenca Kompjuterike
Kampusi: Prishtinë/ Lipjan
Viti: I parë
Statusi: I rregullt

Chapter 4

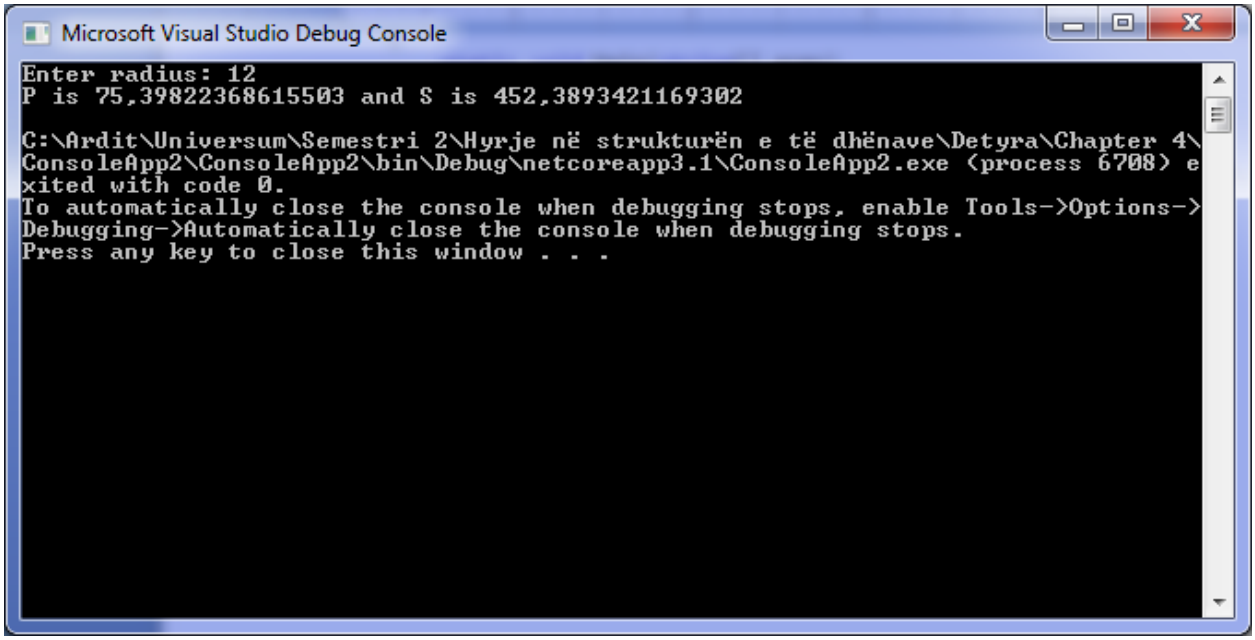
1. Write a program that reads from the console three numbers of type int and prints their sum.

```
using System;

namespace ConsoleApp1
{
    class Program
    {
        static void Main(string[] args)
        {
                Console.Write("First number: ");
                int a = Int32.Parse(Console.ReadLine());
                Console.Write("Second number: ");
                int b = Int32.Parse(Console.ReadLine());
                Console.Write("Third number: ");
                int c = Int32.Parse(Console.ReadLine());
                Console.Write("Result is {0}", a + b + c);
        }
    }
}
```



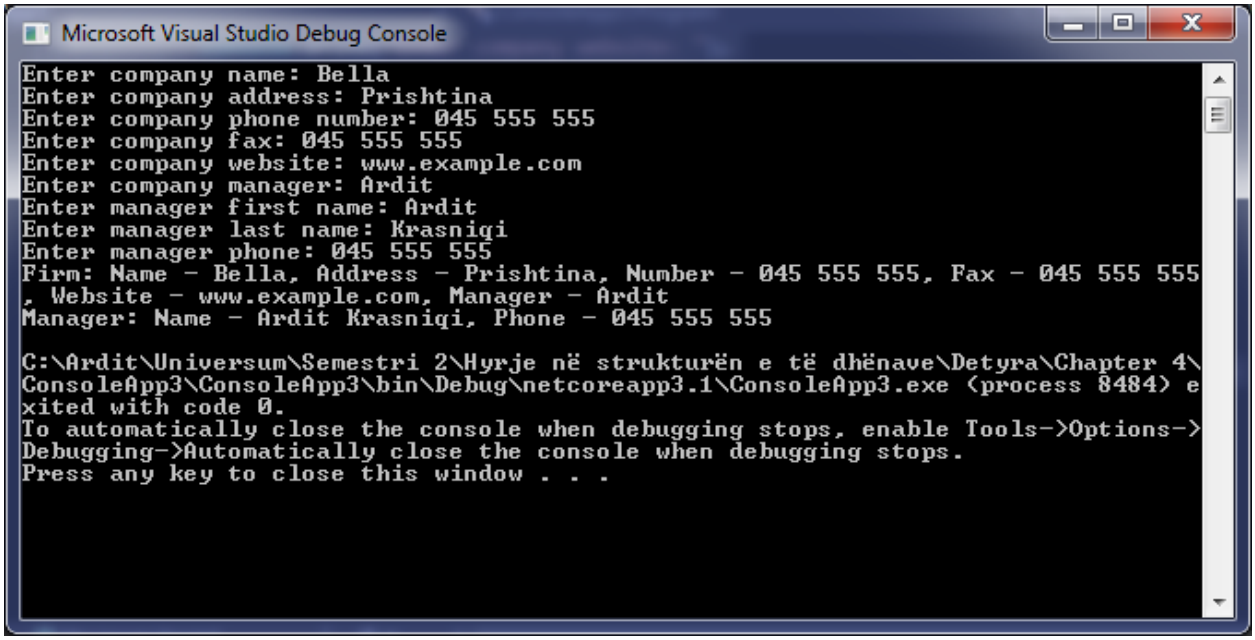
2. Write a program that reads from the console the radius "r" of a circle and prints its perimeter and area.

```
using System;

namespace ConsoleApp2
{
    class Program
    {
        static void Main(string[] args)
        {
            Console.Write("Enter radius: ");
            int r = Int32.Parse(Console.ReadLine());
            Console.WriteLine("P is {0} and S is {1}", 2 * Math.PI * r, Math.PI * r * r);
        }
    }
}
```



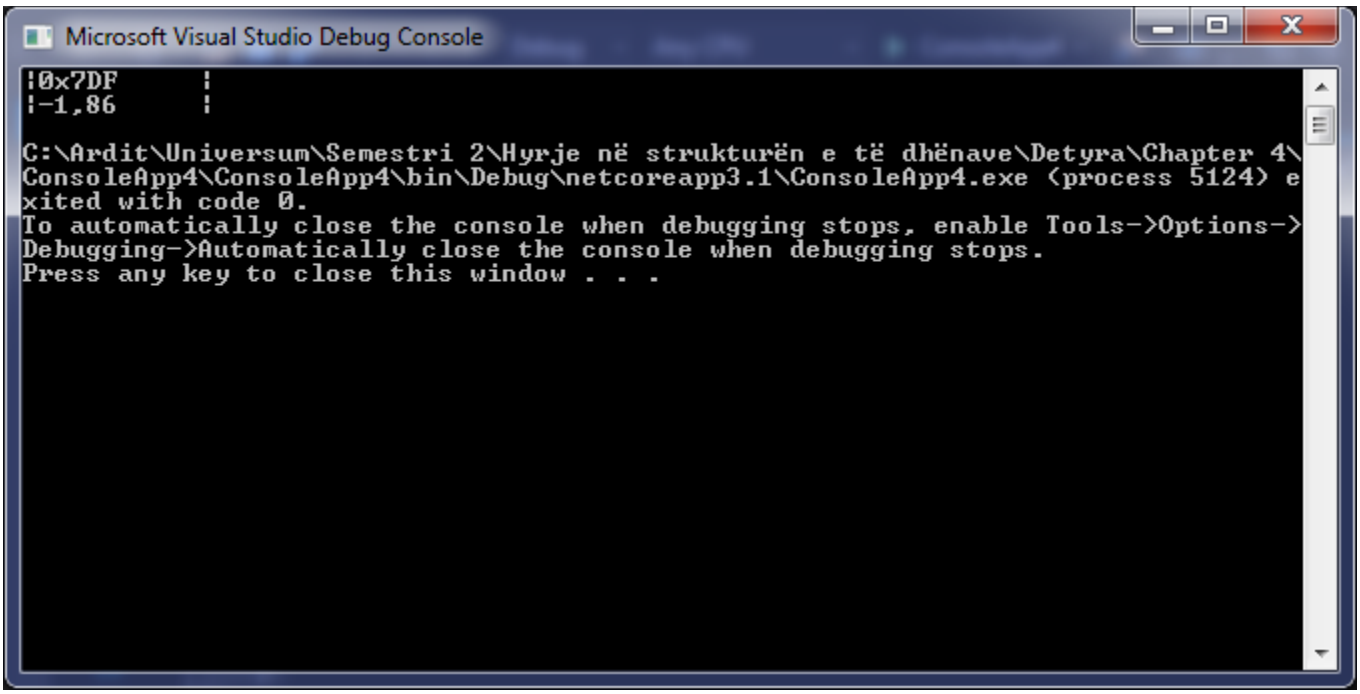
3. A given company has name, address, phone number, fax number, web site and manager. The manager has name, surname and phone number. Write a program that reads information about the company and its manager and then prints it on the console.

```
using System;

namespace ConsoleApp3
{
    class Program
    {
        static void Main(string[] args)
        {
            Console.Write("Enter company name: ");
            string compName = Console.ReadLine();
            Console.Write("Enter company address: ");
            string compAddr = Console.ReadLine();
            Console.Write("Enter company phone number: ");
            string compPhone = Console.ReadLine();
            Console.Write("Enter company fax: ");
            string compFax = Console.ReadLine();
            Console.Write("Enter company website: ");
            string compSite = Console.ReadLine();
            Console.Write("Enter company manager: ");
            string compManager = Console.ReadLine();
            Console.Write("Enter manager first name: ");
            string managerFName = Console.ReadLine();
            Console.Write("Enter manager last name: ");
            string managerLName = Console.ReadLine();
            Console.Write("Enter manager phone: ");
            string managerPhone = Console.ReadLine();

            Console.WriteLine("Firm: Name - {0}, Address - {1}, Number - {2}, Fax - {3}, " +
            "Website - {4}, Manager - {5}",
            compName, compAddr, compPhone, compFax, compSite, compManager);
            Console.WriteLine("Manager: Name - {0} {1}, Phone - {2}",
            managerFName, managerLName, managerPhone);
        }
    }
}
```



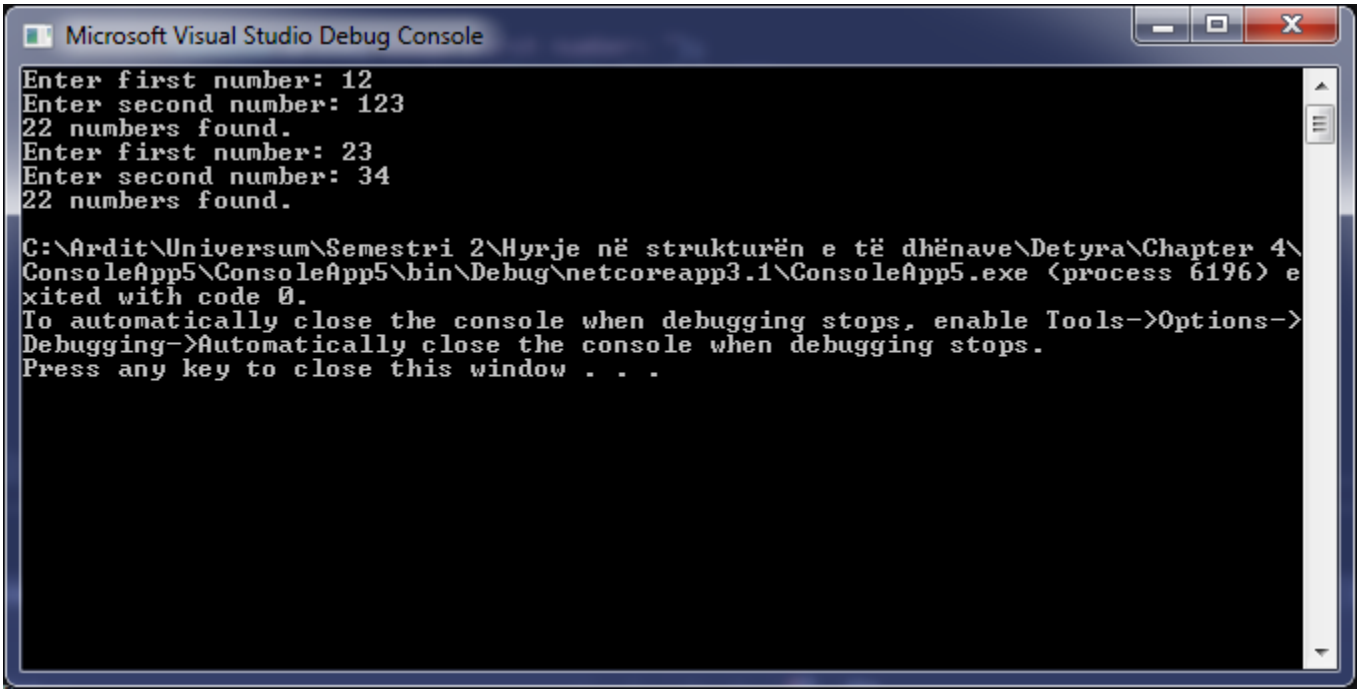
4. Write a program that prints three numbers in three virtual columns on the console. Each column should have a width of 10 characters and the numbers should be left aligned. The first number should be an integer in hexadecimal; the second should be fractional positive; and the third – a negative fraction. The last two numbers have to be rounded to the second decimal place.

```
using System;

namespace ConsoleApp4
{
    class Program
    {
        static void Main(string[] args)
        {
            int hexNum = 2015;
            Console.WriteLine("|0x{0,-8:X}|", hexNum);
            double fractNum = -1.856;
            Console.WriteLine("|{0,-10:f2}|", fractNum);
        }
    }
}
```



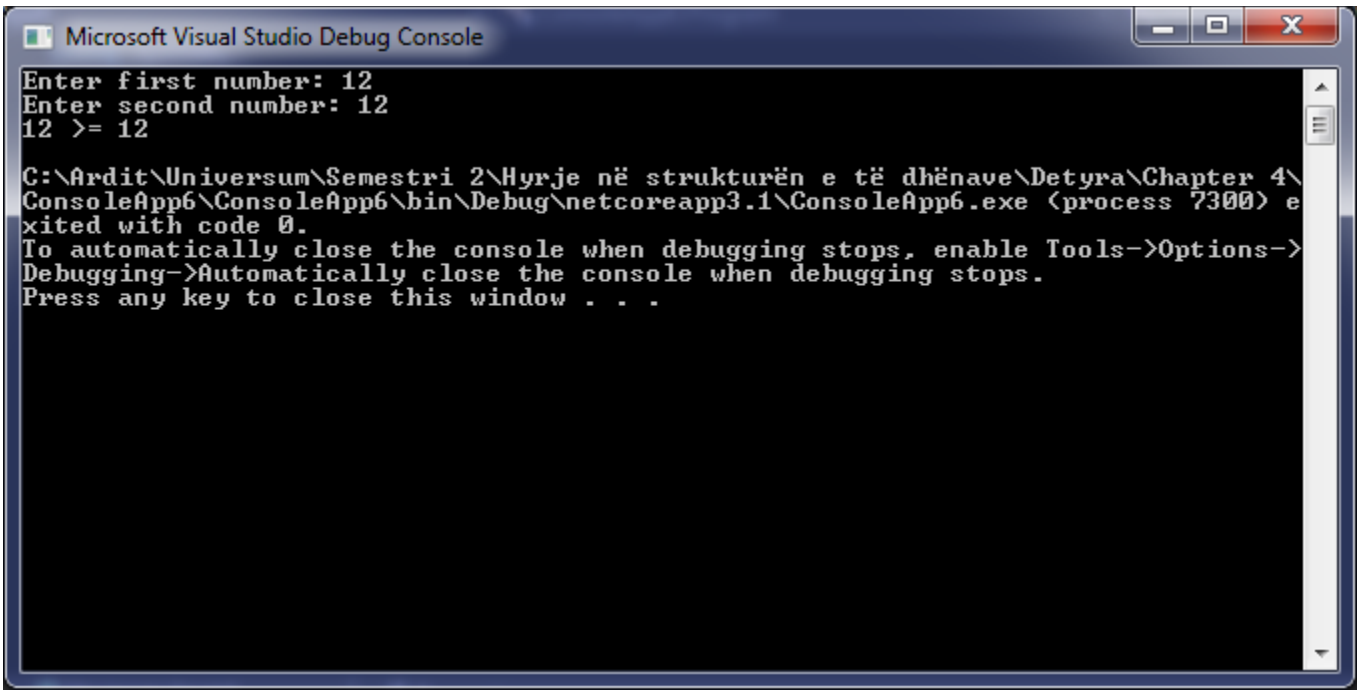
5. Write a program that reads from the console two integer numbers (int) and prints how many numbers between them exist, such that the remainder of their division by 5 is 0. Example: in the range (14, 25) there are 3 such numbers: 15, 20 and 25.

```
using System;

namespace ConsoleApp5
{
    class Program
    {
        static void Main(string[] args)
        {
            int counter = 0;

            Console.Write("Enter first number: ");
            int a = Int32.Parse(Console.ReadLine());
            Console.Write("Enter second number: ");
            int b = Int32.Parse(Console.ReadLine());

            for (int i = a; i <= b; i++)
            {
                if (i % 5 == 0) counter++;
            }

            Console.WriteLine("{0} numbers found.", counter);
            {
                int sum = 0;

                Console.Write("Enter first number: ");
                int first = Int32.Parse(Console.ReadLine());
                Console.Write("Enter second number: ");
                int second = Int32.Parse(Console.ReadLine());

                for (int i = a; i <= b; i++)
                {
                    if (i % 5 == 0) sum++;
                }

                Console.WriteLine("{0} numbers found.", sum);
            }
        }
    }
}
```



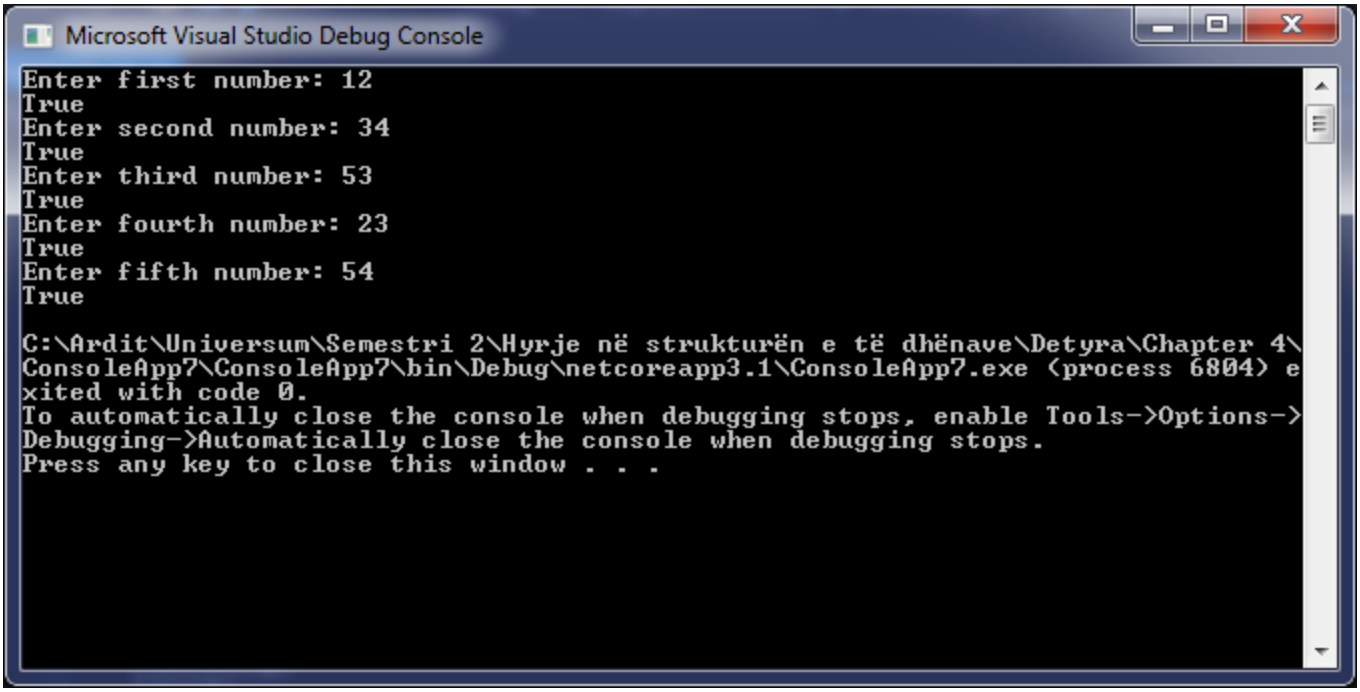
6. Write a program that reads two numbers from the console and prints the greater of them. Solve the problem without using conditional statements.

```
using System;

namespace ConsoleApp6
{
    class Program
    {
        static void Main(string[] args)
        {
            Console.Write("Enter first number: ");
            int a = Int32.Parse(Console.ReadLine());
            Console.Write("Enter second number: ");
            int b = Int32.Parse(Console.ReadLine());

            Console.WriteLine("{0} >= {1}", Math.Max(a, b), Math.Min(a, b));
        }
    }
}
```



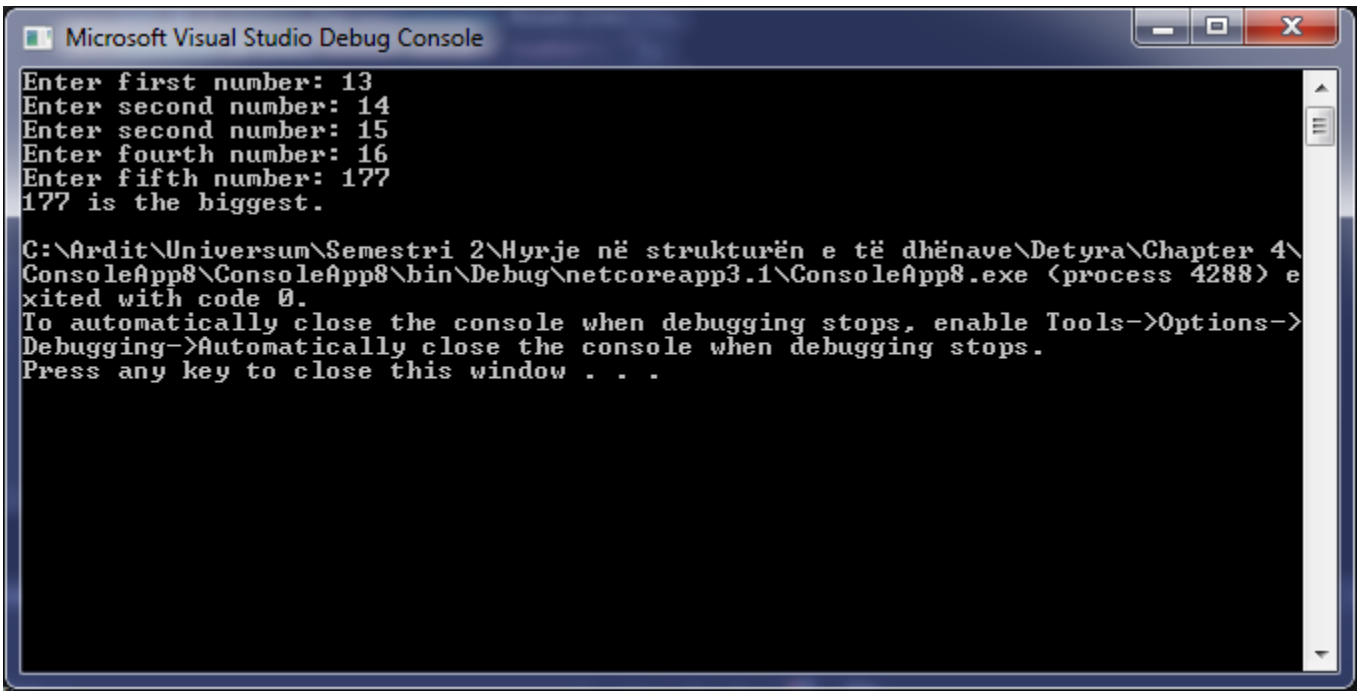
7. Write a program that reads five integer numbers and prints their sum. If an invalid number is entered the program should prompt the user to enter another number.

```
using System;

namespace ConsoleApp7
{
    class Program
    {
        static void Main(string[] args)
        {
            int a, b, c, d, e;
            bool parseSucceed = false;

            do
            {
                Console.Write("Enter first number: ");
                parseSucceed = Int32.TryParse(Console.ReadLine(), out a);
                Console.WriteLine(parseSucceed);
            } while (!parseSucceed);

            do
            {
                Console.Write("Enter second number: ");
                parseSucceed = Int32.TryParse(Console.ReadLine(), out b);
                Console.WriteLine(parseSucceed);
            } while (!parseSucceed);

            do
            {
                Console.Write("Enter third number: ");
                parseSucceed = Int32.TryParse(Console.ReadLine(), out c);
                Console.WriteLine(parseSucceed);
            } while (!parseSucceed);

            do
            {
                Console.Write("Enter fourth number: ");
                parseSucceed = Int32.TryParse(Console.ReadLine(), out d);
                Console.WriteLine(parseSucceed);
            } while (!parseSucceed);

            do
            {
                Console.Write("Enter fifth number: ");
                parseSucceed = Int32.TryParse(Console.ReadLine(), out e);
                Console.WriteLine(parseSucceed);
            } while (!parseSucceed);

        }
    }
}
```


Microsoft Visual Studio Debug Console
Enter first number: 12
True
Enter second number: 34
True
Enter third number: 53
True
Enter fourth number: 23
True
Enter fifth number: 54
True
C:\Ardit\Universum\Semestri 2\Hyrje në strukturën e të dhënave\Detyra\Chapter 4\ConsoleApp7\ConsoleApp7\bin\Debug\netcoreapp3.1\ConsoleApp7.exe (process 6804) exited with code 0.
To automatically close the console when debugging stops, enable Tools->Options->Debugging->Automatically close the console when debugging stops.
Press any key to close this window . . .

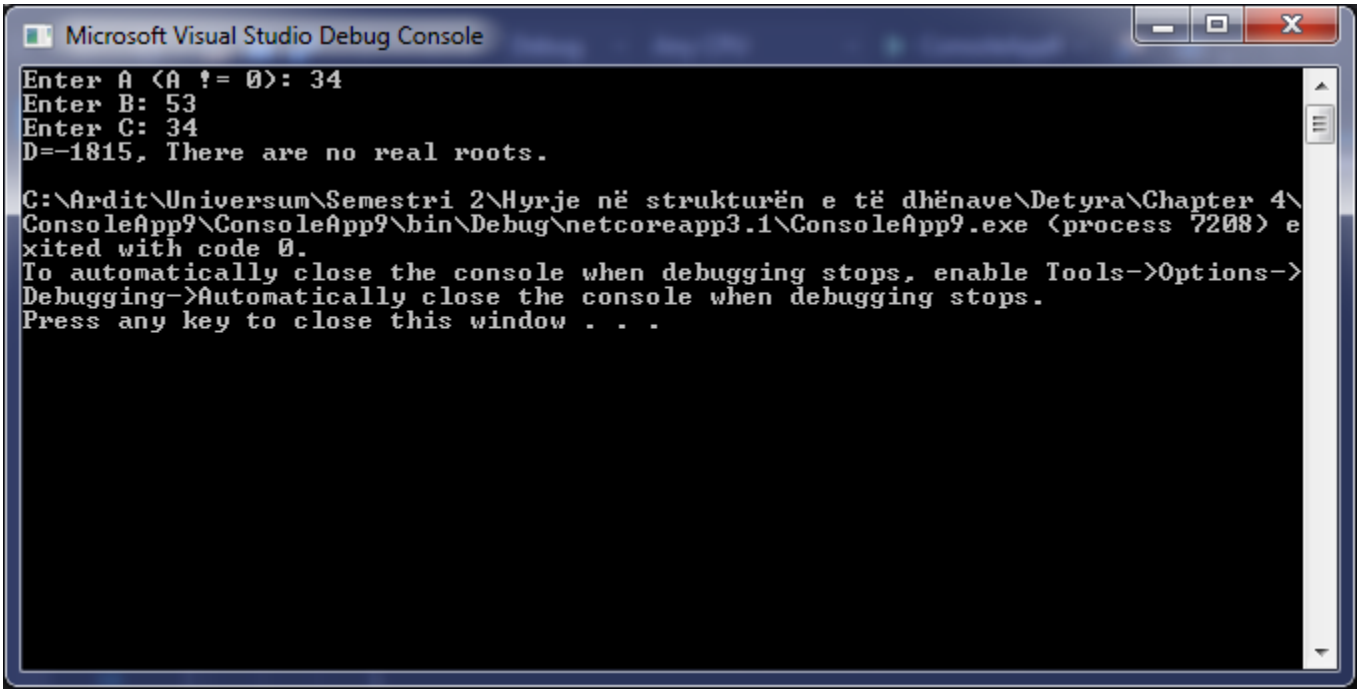
8. Write a program that reads five numbers from the console and prints the greatest of them.

```
using System;

namespace ConsoleApp8
{
    class Program
    {
        static void Main(string[] args)
        {
            Console.Write("Enter first number: ");
            int a = Int32.Parse(Console.ReadLine());
            Console.Write("Enter second number: ");
            int b = Int32.Parse(Console.ReadLine());
            Console.Write("Enter second number: ");
            int c = Int32.Parse(Console.ReadLine());
            Console.Write("Enter fourth number: ");
            int d = Int32.Parse(Console.ReadLine());
            Console.Write("Enter fifth number: ");
            int e = Int32.Parse(Console.ReadLine());

            if (a > b && a > c && a > d && a > e) Console.WriteLine("{0} is the biggest.", a);
            else if(b > a && b > c && b > d && b > e) Console.WriteLine("{0} is the biggest.", b);
            else if(c > a && c > b && c > d && c > e) Console.WriteLine("{0} is the biggest.", c);
            else if(d > a && d > b && d > c && d > e) Console.WriteLine("{0} is the biggest.", d);
            else if(e > a && e > b && e > c && e > d) Console.WriteLine("{0} is the biggest.", e);
            else Console.WriteLine("There isn't a biggest number.");
        }
    }
}
```



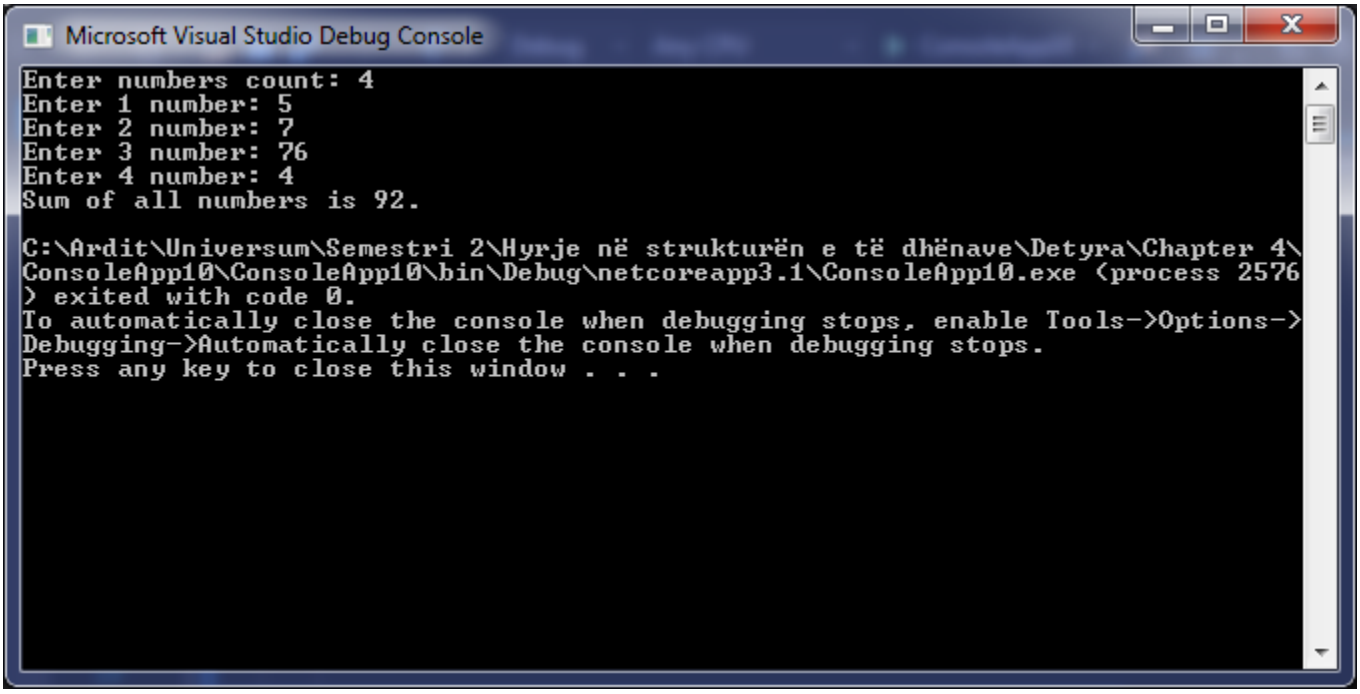
9. Write a program that reads an integer number n from the console. After that reads n numbers from the console and prints their sum.

```
using System;

namespace ConsoleApp9
{
    class Program
    {
        static void Main(string[] args)
        {
            double d, x1, x2;
            Console.Write("Enter A (A != 0): ");
            double a = Int32.Parse(Console.ReadLine());
            Console.Write("Enter B: ");
            double b = Int32.Parse(Console.ReadLine());
            Console.Write("Enter C: ");
            double c = Int32.Parse(Console.ReadLine());

            d = b * b - 4 * a * c;

            if (d < 0) Console.WriteLine("D={0}, There are no real roots.", d);
            else if (d == 0)
            {
                x1 = (-b / (2 * a));
                Console.WriteLine("X={0}", x1);
            }
            else
            {
                x1 = (-b + Math.Sqrt(d)) / (2 * a);
                x2 = (-b - Math.Sqrt(d)) / (2 * a);
                Console.WriteLine("X1={0}, X2={1}", x1, x2);
            }
        }
    }
}
```



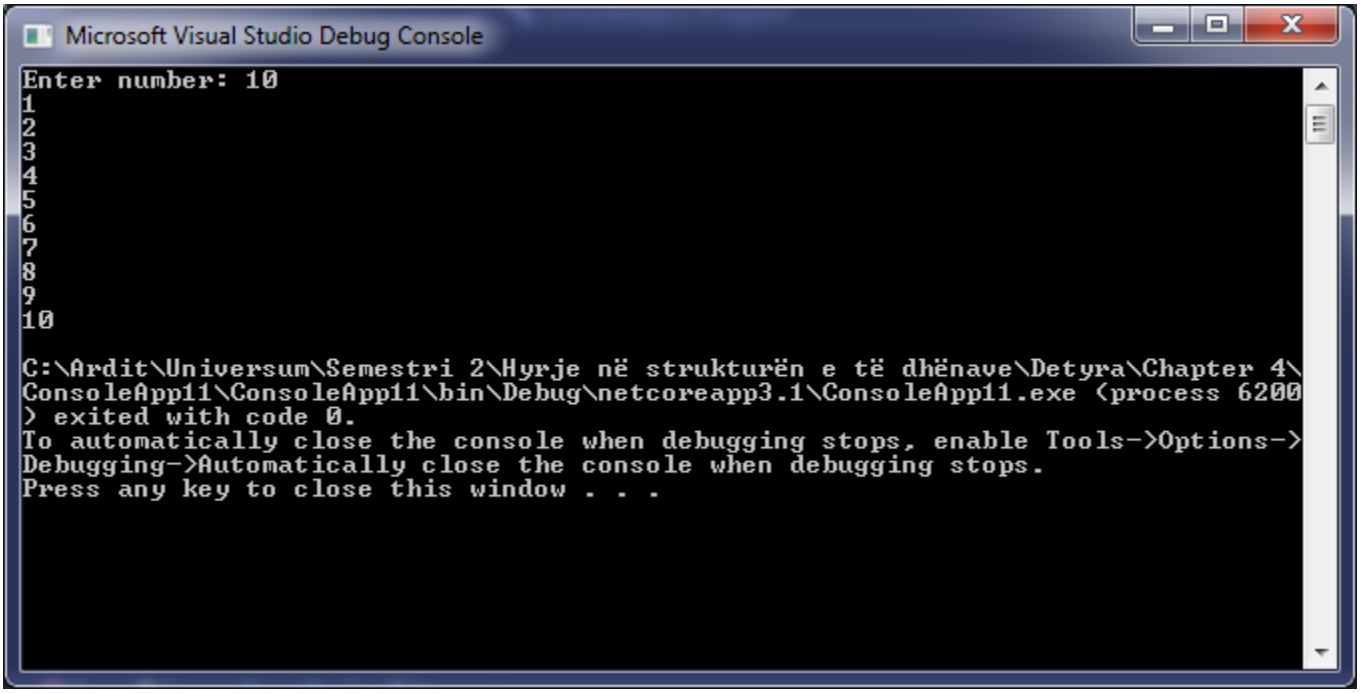
10. Write a program that reads an integer number n from the console and prints all numbers in the range [1…n], each on a separate line.

```
using System;

namespace ConsoleApp10
{
    class Program
    {
        static void Main(string[] args)
        {
            int sum = 0;

            Console.Write("Enter numbers count: ");
            int length = Int32.Parse(Console.ReadLine());

            for (int i = 0; i < length; i++)
            {
                Console.Write("Enter {0} number: ", i + 1);
                sum += Int32.Parse(Console.ReadLine());
            }

            Console.WriteLine("Sum of all numbers is {0}.", sum);
        }
    }
}
```



11. Write a program that prints on the console the first 100 numbers in the Fibonacci sequence: 0, 1, 1, 2, 3, 5, 8, 13, 21, 34, 55, 89, 144, 233, …

```
using System;

namespace ConsoleApp11
{
    class Program
    {
        static void Main(string[] args)
        {
            int sum = 0;

            Console.Write("Enter number: ");
            int length = Int32.Parse(Console.ReadLine());

            for (int i = 1; i <= length; i++)
            {
                Console.WriteLine(i);
            }
        }
    }
}
```



12. Write a program that calculates the sum (with precision of 0.001) of the following sequence: 1 + 1/2 - 1/3 + 1/4 - 1/5 + …

```
using System;

namespace ConsoleApp12
{
    class Program
    {
        static void Main(string[] args)
        {
            Console.Write("Enter last number: ");
            int length = Int32.Parse(Console.ReadLine());
            double sum = 1.0;

            for (int i = 2; i <= length; i++)
            {
                sum += (1.0 / i);
            }
            Console.WriteLine("{0:F3}", sum);
        }
    }
}
```