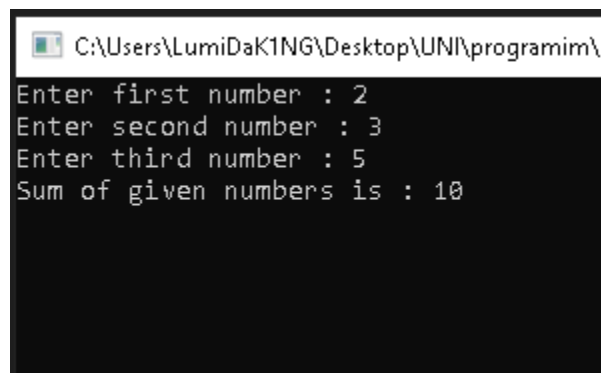


# Chapter 4. Console Input and Output

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

```
using System;

namespace ex1
{
    class Program
    {
        static void Main(string[] args)
        {
            Console.Write("Enter first number : ");
            int a = Convert.ToInt32(Console.ReadLine());
            Console.Write("Enter second number : ");
            int b = Convert.ToInt32(Console.ReadLine());
            Console.Write("Enter third number : ");
            int c = Convert.ToInt32(Console.ReadLine());
            int sum = a + b + c;
            Console.WriteLine("Sum of given numbers is : {0}", sum);
            Console.ReadKey();
        }
    }
}
```

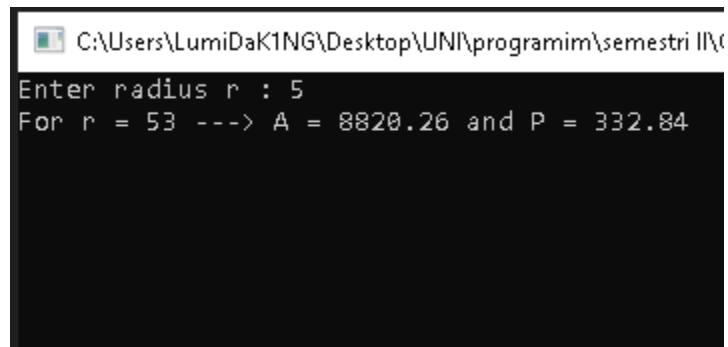


```
C:\Users\LumiDaK1NG\Desktop\UNI\programim\
Enter first number : 2
Enter second number : 3
Enter third number : 5
Sum of given numbers is : 10
```

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

```
using System;

namespace ex2
{
    class Program
    {
        static void Main(string[] args)
        {
            Console.Write("Enter radius r : ");
            int r = Convert.ToInt32(Console.Read());
            double area = Math.Pow(r, 2) * 3.14;
            double perimeter = 2 * r * 3.14;
            Console.WriteLine("For r = {0} ---> A = {1} and P = {2}", r, area, perimeter);
            Console.ReadKey();
        }
    }
}
```



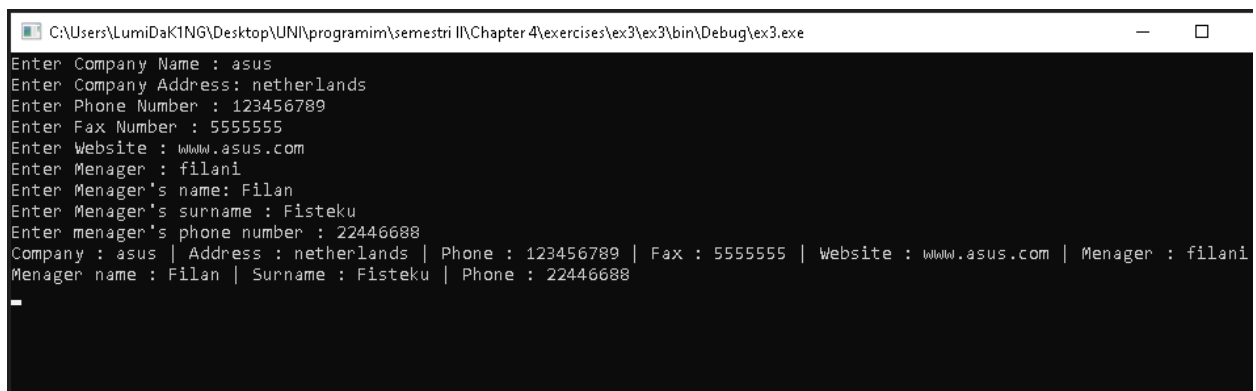
```
C:\Users\LumiDaK1NG\Desktop\UNI\programim\semestri II\
Enter radius r : 5
For r = 53 ---> A = 8820.26 and P = 332.84
```

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 ex3

```
{
    class Program
    {
        static void Main(string[] args)
        {
            Console.Write("Enter Company Name : ");
            string compName = Console.ReadLine();
            Console.Write("Enter Company Address: ");
            string compAddress= Console.ReadLine();
            Console.Write("Enter Phone Number : ");
            string Pnum= Console.ReadLine();
            Console.Write("Enter Fax Number : ");
            string Fnum = Console.ReadLine();
            Console.Write("Enter Website : ");
            string website = Console.ReadLine();
            Console.Write("Enter Menager : ");
            string menager = Console.ReadLine();
            Console.Write("Enter Menager's name: ");
            string menagerName= Console.ReadLine();
            Console.Write("Enter Menager's surname : ");
            string menagerSurname = Console.ReadLine();
            Console.Write("Enter menager's phone number : ");
            string mPnum= Console.ReadLine();
            Console.WriteLine("Company : {0} | Address : {1} | Phone : {2} | Fax : {3} " +
                "| Website : {4} | Menager : {5}", compName, compAddress, Pnum, Fnum, website, menager);
            Console.WriteLine("Menager name : {0} | Surname : {1} | Phone : {2}",menagerName,
menagerSurname, mPnum);
            Console.ReadKey();
        }
    }
}
```



```
C:\Users\LumiDaKING\Desktop\UNI\programim\semestri II\Chapter 4\exercises\ex3\ex3\bin\Debug\ex3.exe
Enter Company Name : asus
Enter Company Address: netherlands
Enter Phone Number : 123456789
Enter Fax Number : 5555555
Enter Website : www.asus.com
Enter Menager : filani
Enter Menager's name: Filan
Enter Menager's surname : Fisteku
Enter menager's phone number : 22446688
Company : asus | Address : netherlands | Phone : 123456789 | Fax : 5555555 | Website : www.asus.com | Menager : filani
Menager name : Filan | Surname : Fisteku | Phone : 22446688
```

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.

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.

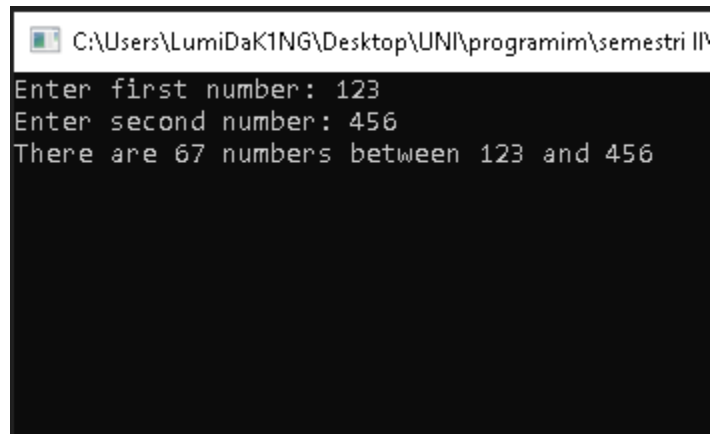
```
using System;

namespace ex5
{
    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());

            int counter = 0;

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

            Console.WriteLine("There are {0} numbers between {1} and {2}", counter, a, b);
            Console.ReadKey();
        }
    }
}
```



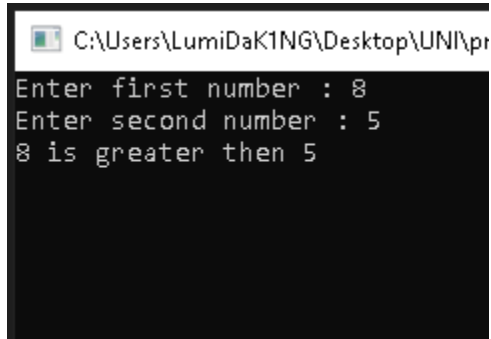
The screenshot shows a console window titled "C:\Users\LumiDaK1NG\Desktop\UNI\programim\semestri II\". The output of the program is as follows:

```
Enter first number: 123
Enter second number: 456
There are 67 numbers between 123 and 456
```

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 ex6
{
    class Program
    {
        static void Main(string[] args)
        {
            Console.Write("Enter first number : ");
            int a = Convert.ToInt32(Console.ReadLine());
            Console.Write("Enter second number : ");
            int b = Convert.ToInt32(Console.ReadLine());
            Console.WriteLine("{0} is greater then {1}", Math.Max(a, b), Math.Min(a, b));
            Console.ReadKey();
        }
    }
}
```



The screenshot shows a console window titled "C:\Users\LumiDaK1NG\Desktop\UNI\pr". The output of the program is as follows:

```
Enter first number : 8
Enter second number : 5
8 is greater then 5
```

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 ex7
{
    class Program
    {
        static void Main(string[] args)
        {
            int a, b, c, d, e, sum;
            bool parseSucceed = false;

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

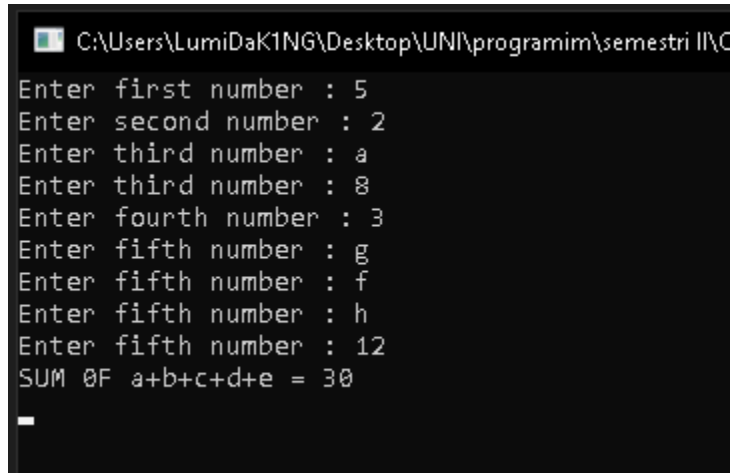
            do
            {
                Console.Write("Enter second number");
                parseSucceed = Int32.TryParse(Console.ReadLine(), out b);
            } while (!parseSucceed);

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

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

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

```
        sum = a + b + c + d + e;  
        Console.WriteLine("SUM OF a+b+c+d+e = {0}", sum);  
        Console.ReadKey();  
    }  
}  
}
```



```
C:\Users\LumiDaK1NG\Desktop\UNI\programim\semestri II\C  
Enter first number : 5  
Enter second number : 2  
Enter third number : a  
Enter third number : 8  
Enter fourth number : 3  
Enter fifth number : g  
Enter fifth number : f  
Enter fifth number : h  
Enter fifth number : 12  
SUM OF a+b+c+d+e = 30  
_
```



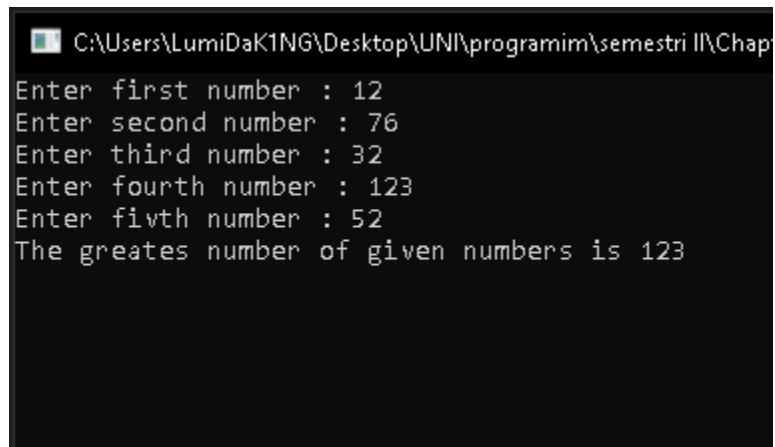
8. Write a program that reads five numbers from the console and prints the greatest of them.

```
using System;

namespace ex8
{
    class Program
    {
        static void Main(string[] args)
        {
            Console.Write("Enter first number : ");
            int a = Convert.ToInt32(Console.ReadLine());
            Console.Write("Enter second number : ");
            int b = Convert.ToInt32(Console.ReadLine());
            Console.Write("Enter third number : ");
            int c = Convert.ToInt32(Console.ReadLine());
            Console.Write("Enter fourth number : ");
            int d = Convert.ToInt32(Console.ReadLine());
            Console.Write("Enter fifth number : ");
            int e = Convert.ToInt32(Console.ReadLine());

            if (a < b) a = b;
            if (a < c) a = c;
            if (a < d) a = d;
            if (a < e) a = e;

            Console.WriteLine("The greatest number of given numbers is {0}", a);
            Console.ReadKey();
        }
    }
}
```

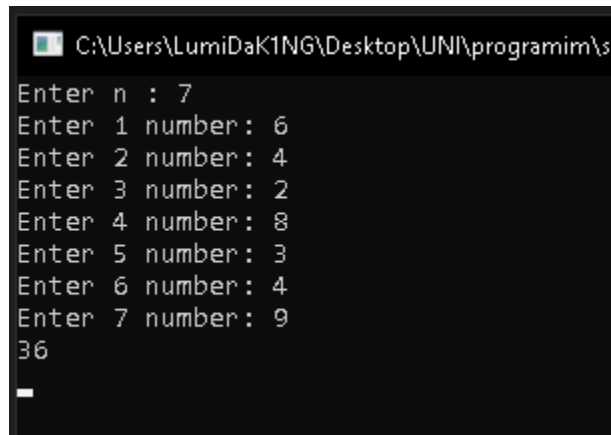


```
C:\Users\LumiDaK1NG\Desktop\UNI\programim\semestri II\Chap
Enter first number : 12
Enter second number : 76
Enter third number : 32
Enter fourth number : 123
Enter fifth number : 52
The greatest number of given numbers is 123
```

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 ex9
{
    class Program
    {
        static void Main(string[] args)
        {
            Console.Write("Enter n : ");
            int n = Convert.ToInt32(Console.ReadLine());
            int sum = 0;
            for (int i = 0; i < n; i++)
            {
                Console.Write("Enter {0} number: ", i + 1);
                sum += Convert.ToInt32(Console.ReadLine());
            }
            Console.WriteLine(sum);
            Console.ReadKey();
        }
    }
}
```

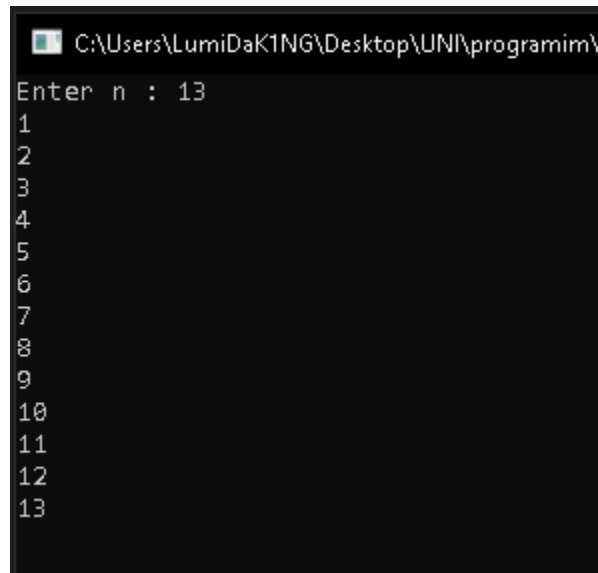


```
C:\Users\LumiDaK1NG\Desktop\UNI\programim\s
Enter n : 7
Enter 1 number: 6
Enter 2 number: 4
Enter 3 number: 2
Enter 4 number: 8
Enter 5 number: 3
Enter 6 number: 4
Enter 7 number: 9
36
_
```

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;

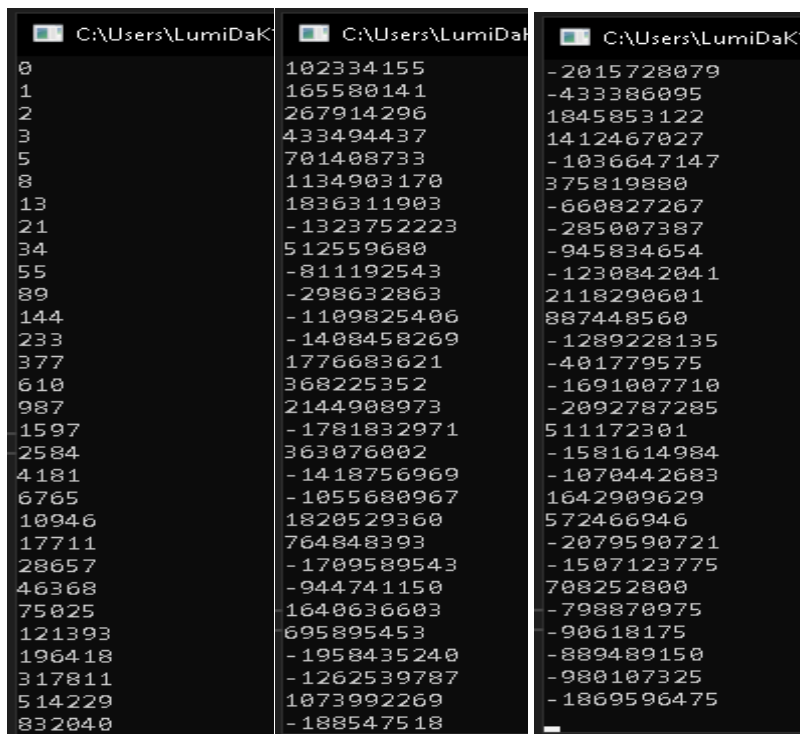
namespace ex10
{
    class Program
    {
        static void Main(string[] args)
        {
            Console.Write("Enter n : ");
            int n = Convert.ToInt32(Console.ReadLine());
            for(int i = 1; i <= n; i++)
            {
                Console.WriteLine(i);
            }
            Console.ReadKey();
        }
    }
}
```

A screenshot of a Windows console window. The title bar shows the file path: C:\Users\LumiDaK1NG\Desktop\UNI\programim\... The console text shows the prompt "Enter n : 13" followed by a list of numbers from 1 to 13, each on a new line.

```
C:\Users\LumiDaK1NG\Desktop\UNI\programim\...
Enter n : 13
1
2
3
4
5
6
7
8
9
10
11
12
13
```

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 ex11
{
    class Program
    {
        static void Main(string[] args)
        {
            int num1 = 0;
            int num2 = 1;
            int sum = 1;
            int count = 0;
            Console.WriteLine(num1);
            while (count < 100)
            {
                sum = num1 + num2;
                num1 = num2;
                num2 = sum;
                Console.WriteLine(num2);
                count++;
            }
            Console.ReadKey();
        }
    }
}
```



0	102334155	-2015728079
1	165580141	-433386095
2	267914296	1845853122
3	433494437	1412467027
5	701408733	-1036647147
8	1134903170	375819880
13	1836311903	-660827267
21	-1323752223	-285007387
34	512559680	-945834654
55	-811192543	-1230842041
89	-298632863	2118290601
144	-1109825406	887448560
233	-1408458269	-1289228135
377	1776683621	-401779575
610	368225352	-1691007710
987	2144908973	-2092787285
1597	-1781832971	511172301
2584	363076002	-1581614984
4181	-1418756969	-1070442683
6765	-1055680967	1642909629
10946	1820529360	572466946
17711	764848393	-2079590721
28657	-1709589543	-1507123775
46368	-944741150	708252800
75025	1640636603	-798870975
121393	695895453	-90618175
196418	-1958435240	-889489150
317811	-1262539787	-980107325
514229	1073992269	-1869596475
832040	-188547518	

12. Write a program that calculates the sum (with precision of 0.001) of the following sequence:  $1 + \frac{1}{2} - \frac{1}{3} + \frac{1}{4} - \frac{1}{5} + \dots$

```
using System;

namespace ex12
{
    class Program
    {
        static void Main(string[] args)
        {
            Console.Write("Enter number : ");
            int length = Convert.ToInt32(Console.ReadLine());
            double sum = 1.0;

            for (int i = 2; i <= length; i++)
            {
                sum += (1.0 / i);
            }

            Console.WriteLine("{0:F3}", sum);
            Console.ReadKey();
        }
    }
}
```

