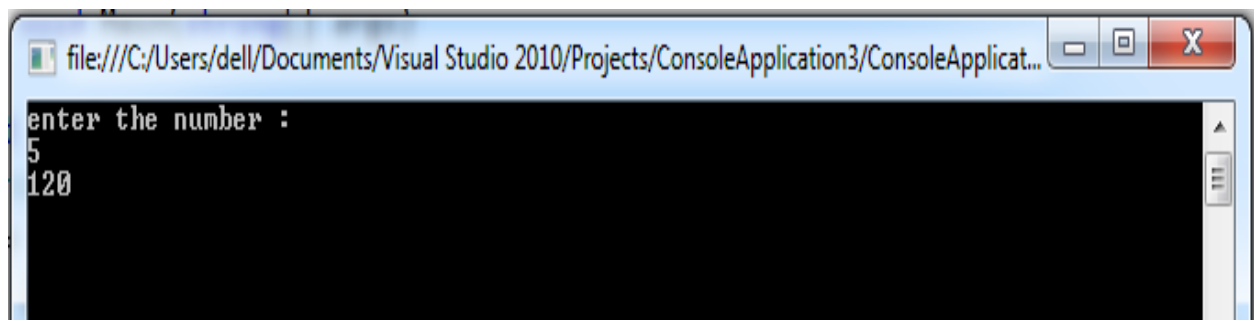# Course 2\Fourth lab

Ex1: **Write a C# program to find N! using for statement.**

```csharp
namespace ConsoleApplication3
{
    class Program
    {
        static void Main(string[] args)
        {
            int n, f = 1;
            Console.WriteLine("enter the number : ");
            n = Convert.ToInt32(Console.ReadLine());

            for (int i = 1; i <= n; i++)
                f = f * i;
            Console.WriteLine(" the fact is =" + f);
            Console.ReadLine();


        }
    }
}
```
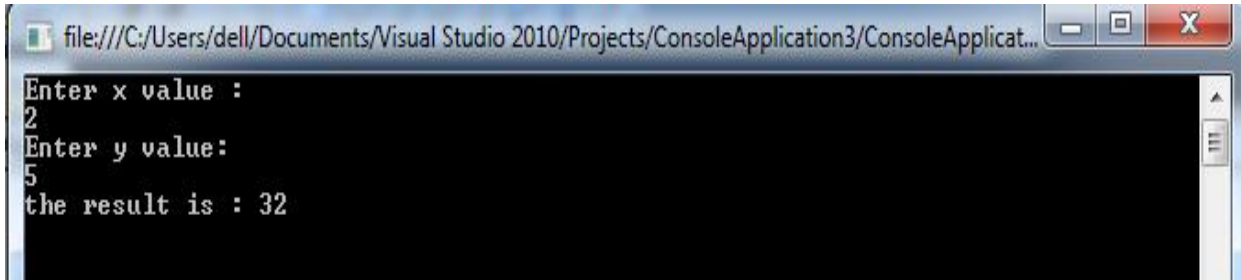
The Output:

Ex2: **Write a VC# program to compute x^y using for statement.**

```
namespace ConsoleApplication3
{
    class Program
    {
        static void Main(string[] args)
        {
            int x, y, p = 1;
            Console.WriteLine("Enter x value :");
            x = Convert.ToInt32(Console.ReadLine());
            Console.WriteLine("Enter y value:");
            y = Int32.Parse(Console.ReadLine());
            for (int i = 1; i <= y; i++)
                p = p * x;
            Console.WriteLine("the result is : " + p);
            Console.ReadLine();


        }
    }
}
```

The Output:

```
Enter x value :
2
Enter y value:
5
the result is : 32
```

Ex3: Write C# program to find the value of y using for statement.

$$y = \frac{x}{2} - \frac{2x}{3} + \frac{3x}{4} - \dots\dots\dots + \frac{nx}{(n+1)}$$

```csharp
namespace ConsoleApplication3
{
    class Program
    {
        static void Main(string[] args)
        {
            double x, n, y;
            Console.WriteLine("enter the value of n ");
            n = Convert.ToDouble(Console.ReadLine());
            Console.WriteLine("enter the value of x ");
            x = Convert.ToDouble(Console.ReadLine());
            y = 0;
            for (double i = 1; i <= n; i++)
                y = y + ((i * x) / (i + 1));
            Console.WriteLine("y= " + y);
            Console.ReadLine();

        }
    }
}
```

The Output:

```
enter the value of n
4
enter the value of x
2
y= 5.43333333333333
```

<u>Homeworks:</u>

Q1/ Write a VC# program to print the product table of number 8.

Q2/ Write a VC# program to find the value of y according to the following equation:

$$y = \frac{x}{1} + \frac{x}{2} + \frac{x}{3} + \cdots + \frac{x}{n}$$