# 20 C# programs Assignment by M.Pallavi

**27-01-2022**

## Program 1: Write a c# program to print factorial of given number

code:

```
using System;

namespace fact
{
    internal class Program
    {
        static void Main(string[] args)
        {
            int n, fact=1;
            Console.WriteLine ("enter n value");
            n=Convert.ToInt32 (Console.ReadLine());
            for(int i=1; i<=n; i++)
            {
                fact = fact * i;
            }
            Console.WriteLine("{0}",fact);
        }
    }
}
```

Output:

```
enter n value
5
120
```

## Program 2: Write C# code to find sum of n natural numbers

Code:

```
using System;

namespace day2evnprogram
{
   internal class Program
   {
      static void Main(string[] args)
      {
         int n, sum = 0, i;
         Console. WriteLine("enter any number");
         n=Convert.ToInt32(Console.ReadLine());
         for(i = 0; i <= n; i++)
         {
            sum=sum+i;
         }
         Console.WriteLine("{0}",sum);
      }
   }
}
```

Output:

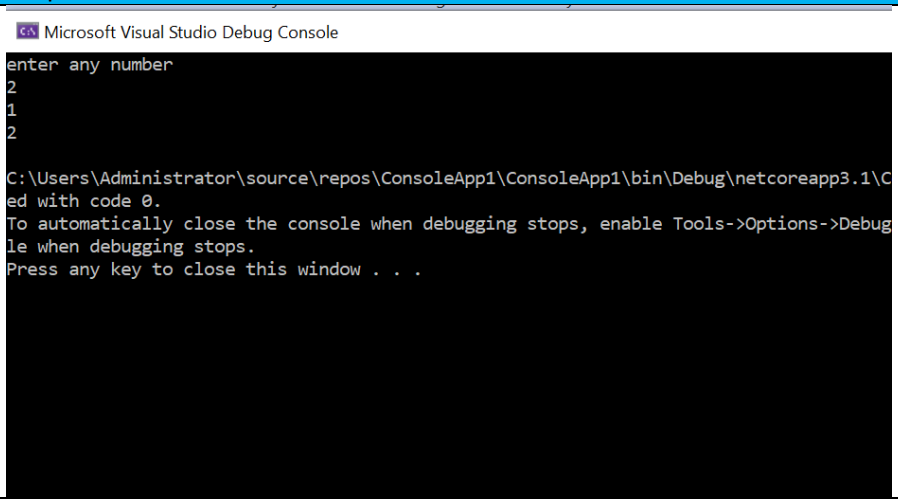
```
enter any number
5
15
```

## Program 3:Write C# code to print factors of a given number

Code:

```
using System;

namespace day2evnprogram
{
   Internal class Program
   {
      Static void Main(string[] args)
      {
         int n,  i;
         Console.WriteLine ("enter any number");
         n=Convert.ToInt32 (Console.ReadLine ());
         for(i = 1; i <= n; i++)
         {
            if(n % i == 0)
            {
               Console.WriteLine(i);
            }
         }
         Console.ReadLine();
      }
   }
}
```

Output:

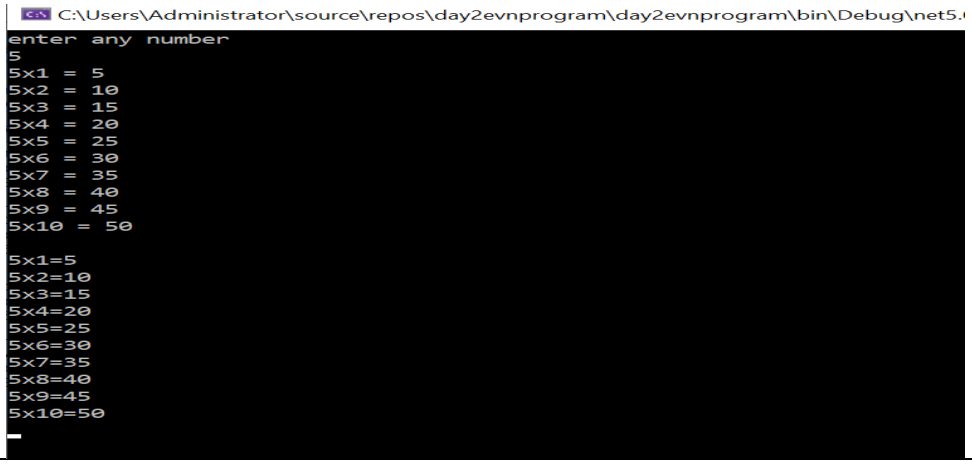



Program 4: Write C# code to print  multiplication  of  given number

Code:

```
using System;

namespace day2evnprogram
{
   internal class Program
   {
      static void Main(string[] args)
      {
         int input,  i;
         Console.WriteLine ("enter any number");
         input =Convert.ToInt32(Console.ReadLine());
         for( i= 1;i <= 10;i++)
         {

            Console.WriteLine (input +"x"+i+ " = "+input*i);
         }
         Console.ReadLine ();
         for (i = 1; i <= 10; i++)
         {

            Console.WriteLine("{0}x{1}={2}",input,i,input*i);
         }
         Console.ReadLine();
      }
   }

}
```

Output:

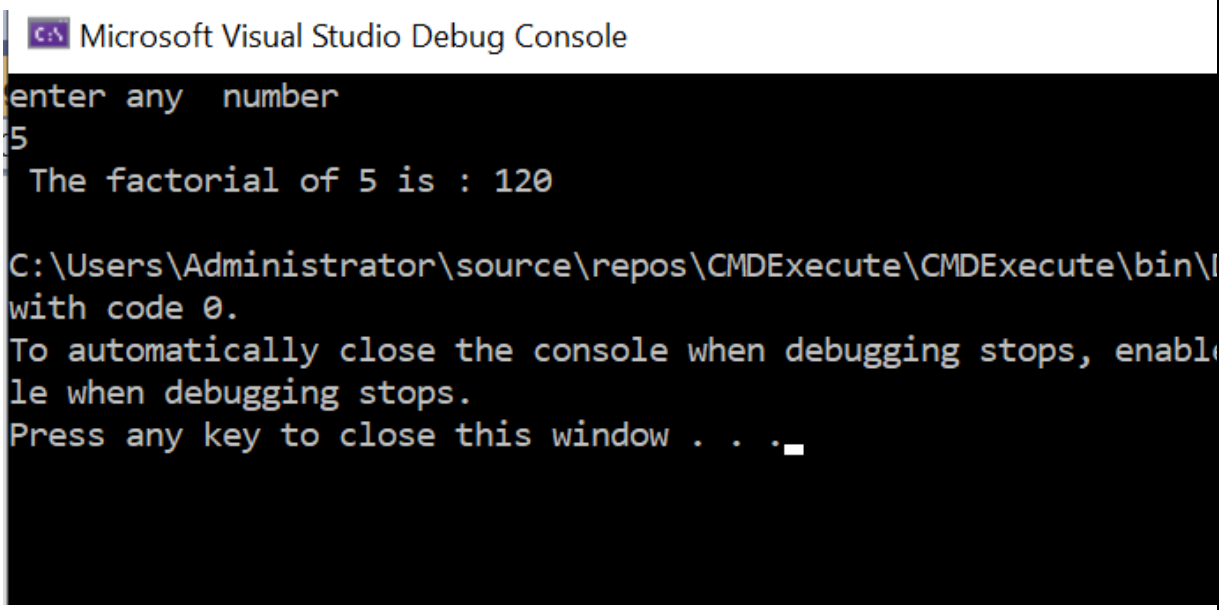



Program 5: Write C# code to print factorial of number using functions

Code:

```
namespace CMDExecute
{
   internal class Program
   {
      static void Main(string[] args)
      {

         int n1;
         Console.WriteLine("enter any  number");
         n1 = Convert.ToInt32(Console.ReadLine());
         long  fact = FactorialCalcu(n1);
         Console.WriteLine(" The factorial of {0} is : {1} ", n1, fact);
         Console.ReadKey();
      }

      private static long FactorialCalcu(int n1)
      {
         if (n1 == 0)
         {
            return 1;
         }
         return n1 * FactorialCalcu(n1 - 1);
      }
   }


}
```

Output:

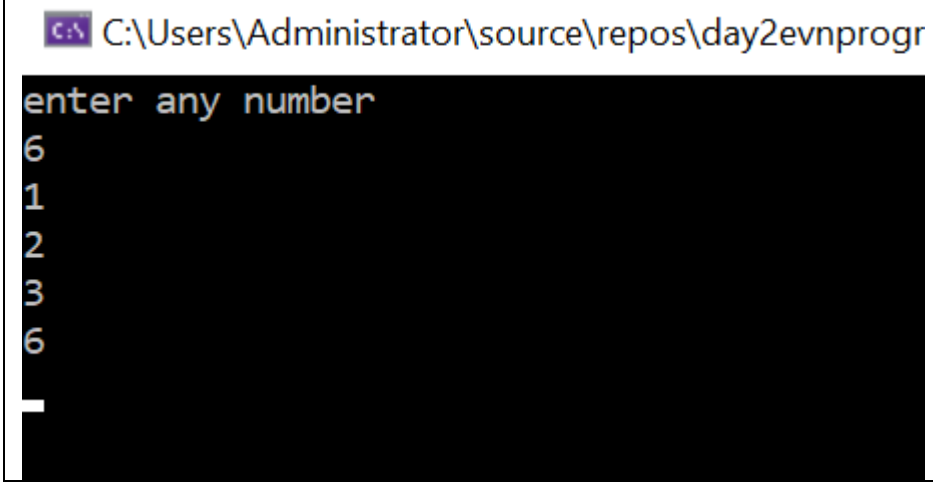


## Program 6: Write C# code to print factors of a given number

code:

```
using System;

namespace day2evnprogram
{
   Internal class Program
   {
      Static void Main(string[] args)
      {
         int n,  i;
         Console.WriteLine ("enter any number");
         n=Convert.ToInt32 (Console.ReadLine ());
         for(i = 1; i <= n; i++)
         {
            if(n % i == 0)
            {
               Console.WriteLine(i);
            }
         }
         Console.ReadLine();
      }
   }
}
```

Output:

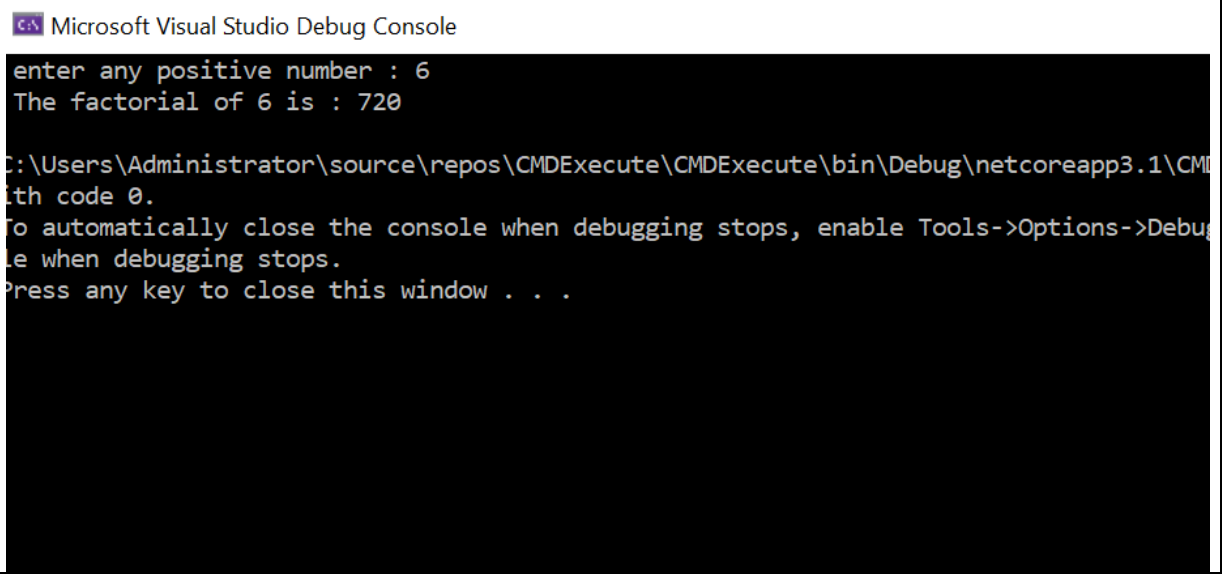


## Program 7:write C# program to print factorial of number using recursion

Code:

```
using System;

namespace CMDExecute
{
   internal class Program
   {
      static void Main(string[] args)
      {

         Console.Write(" enter any positive number : ");
         int n1 = Convert.ToInt32(Console.ReadLine());
         long fact = Factorial(n1);
         Console.WriteLine(" The factorial of {0} is : {1} ", n1, fact);
         Console.ReadKey();
      }

      private static long Factorial(int n1)
      {
         if (n1 == 0)
         {
            return 1;
         }
         return n1 * Factorial(n1 - 1);
      }
   }
}
```

Output:

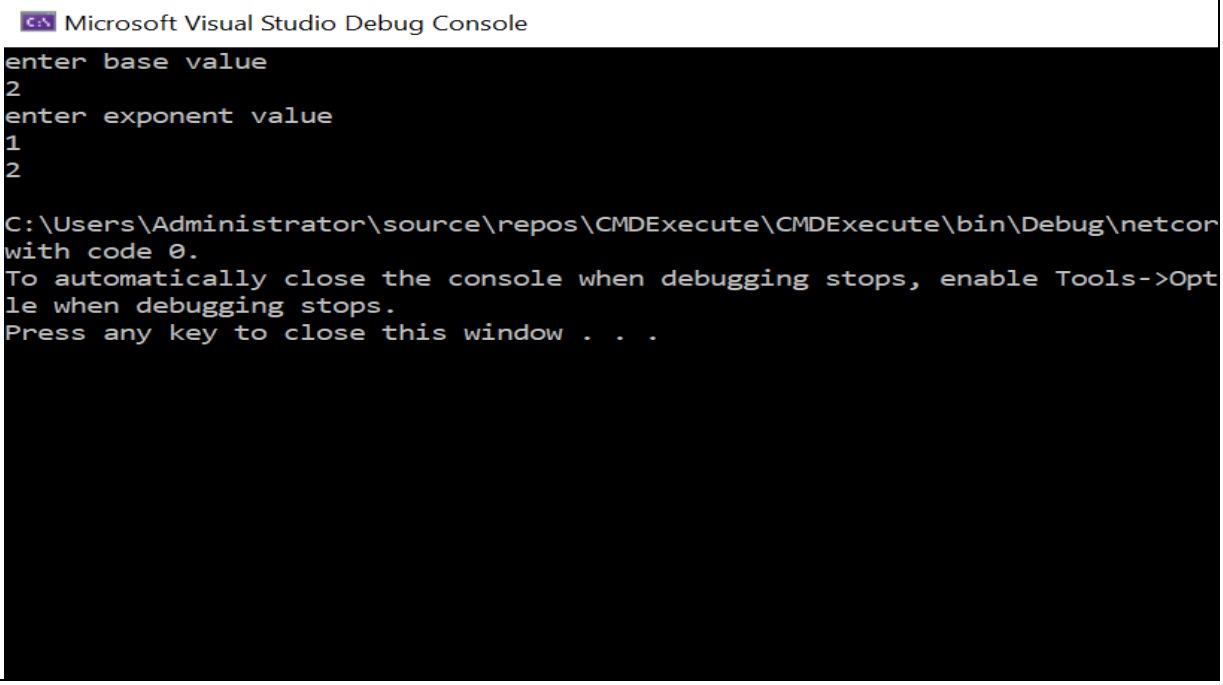


## Program 8: write a c# program to print power of given number[a power b]

code:

```
using System;

namespace CMDExecute
{
   internal class Program
   {
      static void Main(string[] args)
      {

         int b, expo, i;
         int result = 1;
         Console.WriteLine("enter base value");
         b = Convert.ToInt32(Console.ReadLine());
         Console.WriteLine("enter exponent value");
         expo = Convert.ToInt32(Console.ReadLine());
         for (i = 1; i <= expo; i++)
         {
            result = result * b;
         }
         Console.WriteLine(result);

      }

   }

}
```

Output:

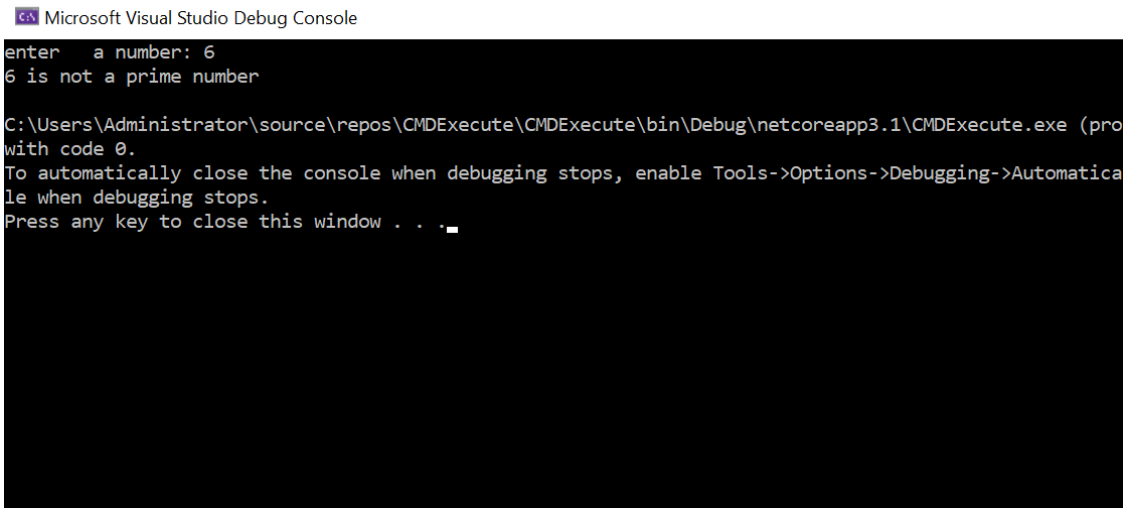


## Program 9: write a c# program to print whether the given number is prime or not

code:

```
using System;

namespace CMDExecute
{
   internal class Program
   {
      static void Main(string[] args)
      {
            int num, i, c= 0;
            Console.Write("enter   a number: ");
            num = Convert.ToInt32(Console.ReadLine());
            for (i = 2; i <= num / 2; i++)
            {
               if (num % i == 0)
               {
                  c++;
                  break;

               }

   }
            if (c == 0 && num != 1)
               Console.Write("{0} is a prime number.\n", num);
            else
               Console.Write("{0} is not a prime number\n", num);
        }
      }
   }
```

Output:

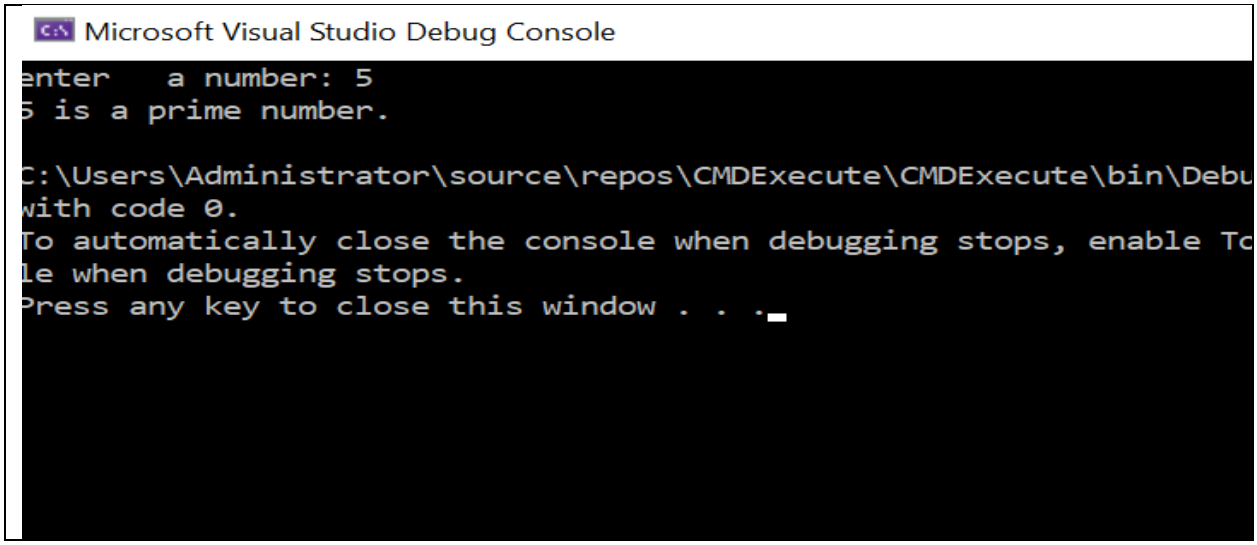


Program 10: Write a c# program to print whether the given number is prime or not using functions

code:

```
using System;

namespace CMDExecute
{
   internal class Program
   {

          static bool prime(int num)
          {
             for (int i = 2; i < num; i++)
                if (num % i == 0)
                   return false;
             return true;
          }
          public static void Main()
          {
             Console.Write("enter  a number : ");
             int n = Convert.ToInt32(Console.ReadLine());
             if (prime(n))
                Console.WriteLine("{0}" ,n ,is a prime number");
             else
                Console.WriteLine( "{0}",n, is not a prime number");
          }
       }

   }
}
```

Output:



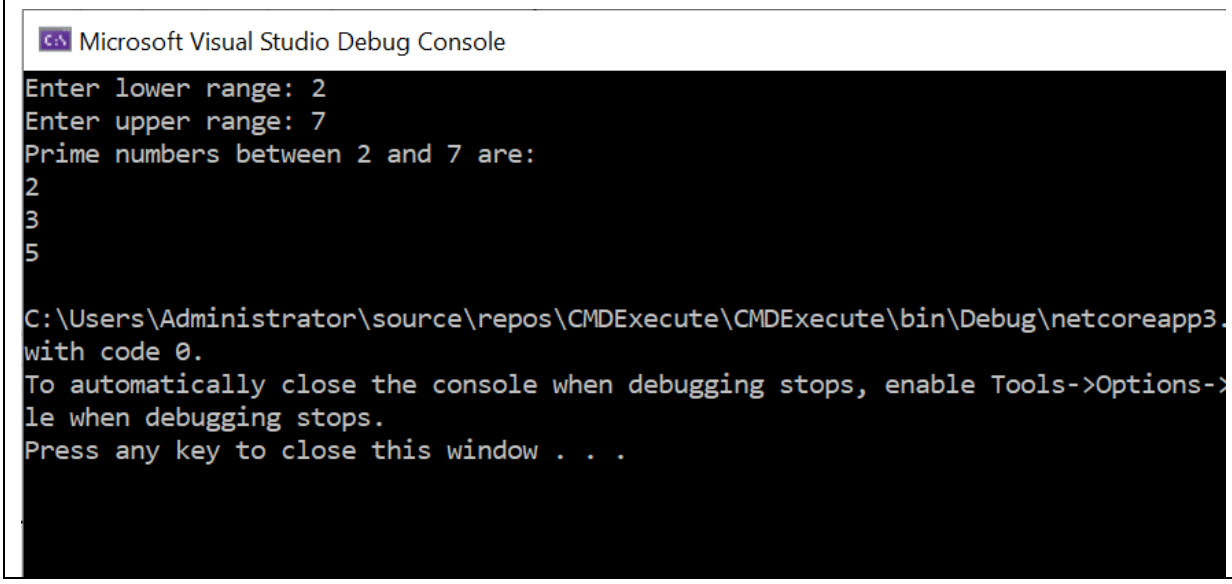

Program 11:Write a c# program to print prime numbers within given range

code:

```
using System;

namespace CMDExecute
{
   internal class Program
   {
      public static void Main()
      {
         int num1, num2, s = 0;
         Console.Write("Enter lower range: ");
         num1 = Convert.ToInt32(Console.ReadLine());
         Console.Write("Enter upper range: ");
         num2 = Convert.ToInt32(Console.ReadLine());
         Console.WriteLine("Prime numbers between {0} and {1} are: ", num1, num2);

         for (int i = num1; i < num2; i++)
         {
            s = 0;
            if (i > 1)
            {
               for (int j = 2; j < i; j++)
               {
                  if (i % j == 0)
                  {
                     s = 1;
                     break;
                  }
               }
               if (s== 0)
               {
                  Console.WriteLine(i);
               }
```

```
        }
      }

    }


  }
}
```

Output:

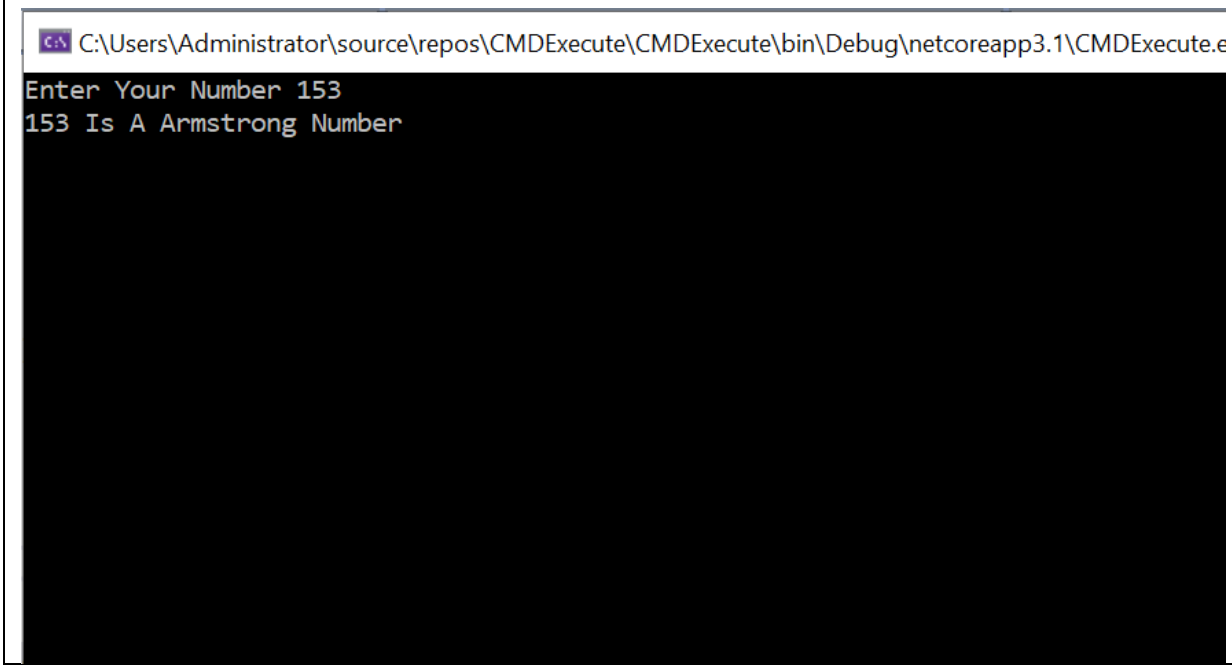



Program 12: Write a c# program to print whether the given number is armstrong or not

code:

```
using System;

namespace CMDExecute
{
    internal class Program
    {
        public static void Main()
        {
            int n, r, temp, sum = 0;

            Console.Write("Enter Your Number ");
            n = Convert.ToInt32(Console.ReadLine());

            temp = n;
            while (n > 0)
            {
                r = n % 10;
                sum = sum + (r * r * r);
                n = n/ 10;
            }

            if (temp == sum)
                Console.WriteLine(temp + " Is A Armstrong Number");
            else
                Console.WriteLine(temp + " Is Not A Armstrong Number");
            Console.ReadLine();
        }
    }
}
```

Output:

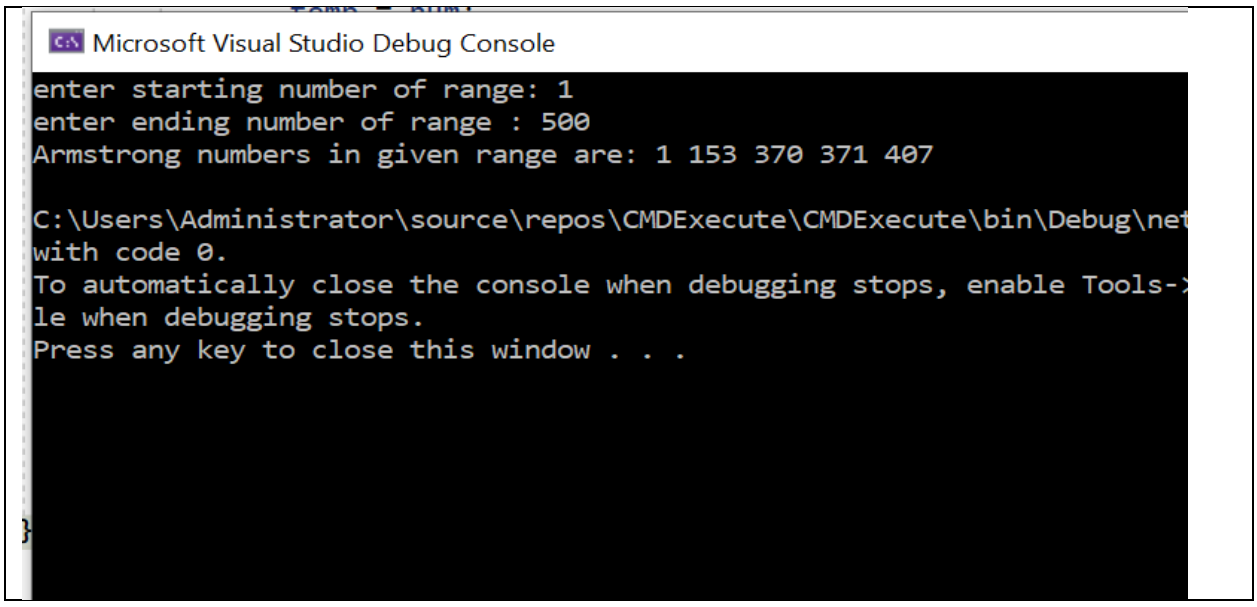


Program 13:write a c# program to find the armstrong number for a given range of number.

code:

```
using System;

namespace CMDExecute
{
    internal class Program
    {
        public static void Main()
        {
            int num, r, sum, temp;
            int stno, enno;
            Console.Write("enter starting number of range: ");
            stno = Convert.ToInt32(Console.ReadLine());

            Console.Write("enter ending number of range : ");
            enno = Convert.ToInt32(Console.ReadLine());

            Console.Write("Armstrong numbers in given range are: ");
            for (num = stno; num <= enno; num++)
            {
                temp = num;
                sum = 0;

                while (temp != 0)
                {
                    r = temp % 10;
                    temp = temp / 10;
                    sum = sum + (r * r * r);
                }
                if (sum == num)
                    Console.Write("{0} ", num);
            }
            Console.Write("\n");
        }
    }
}
```

Output:

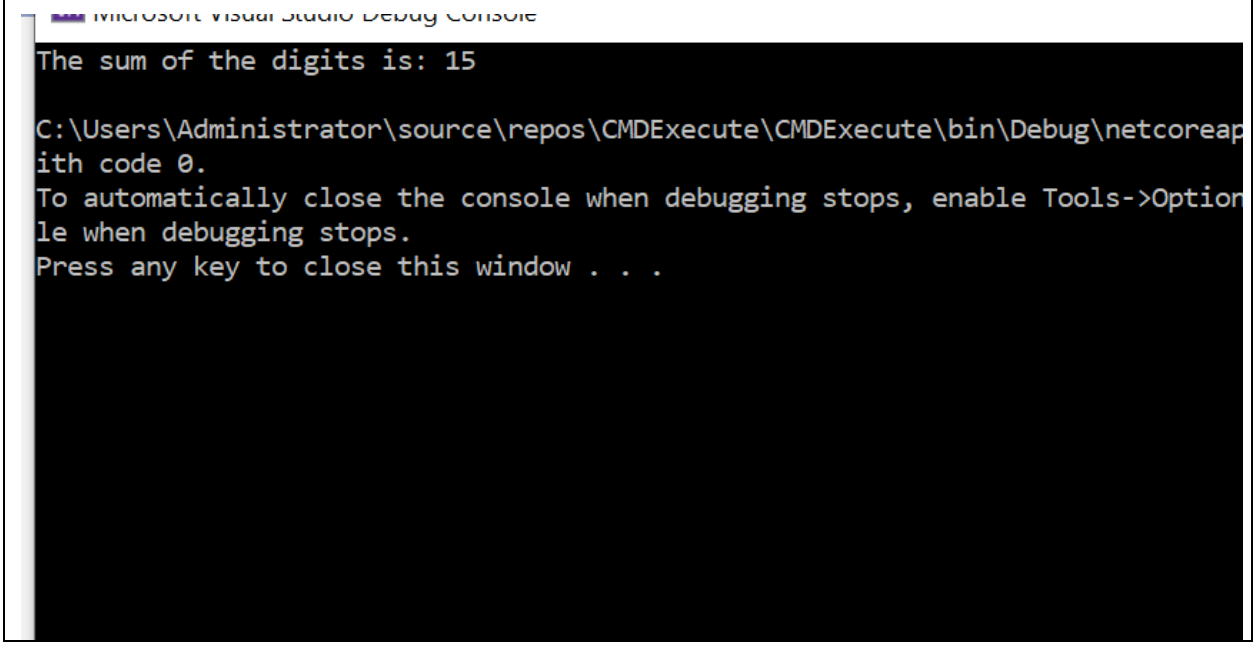



| Program 14: write a c# program to print sum of digits of given number |
| --- |
| code: |

Code :

```
using System;

namespace CMDExecute


{
   internal class Program
   {
      public static void Main()

      {

                                    int a = 258, sum = 0, b;
                                    while (a != 0)
                                    {
                                          b = a % 10;
                                          sum = sum + b;
                                          a = a / 10;
                                    }
                                    Console.WriteLine("The sum of the digits is: " + sum);

                  }

}

}
```

Output:

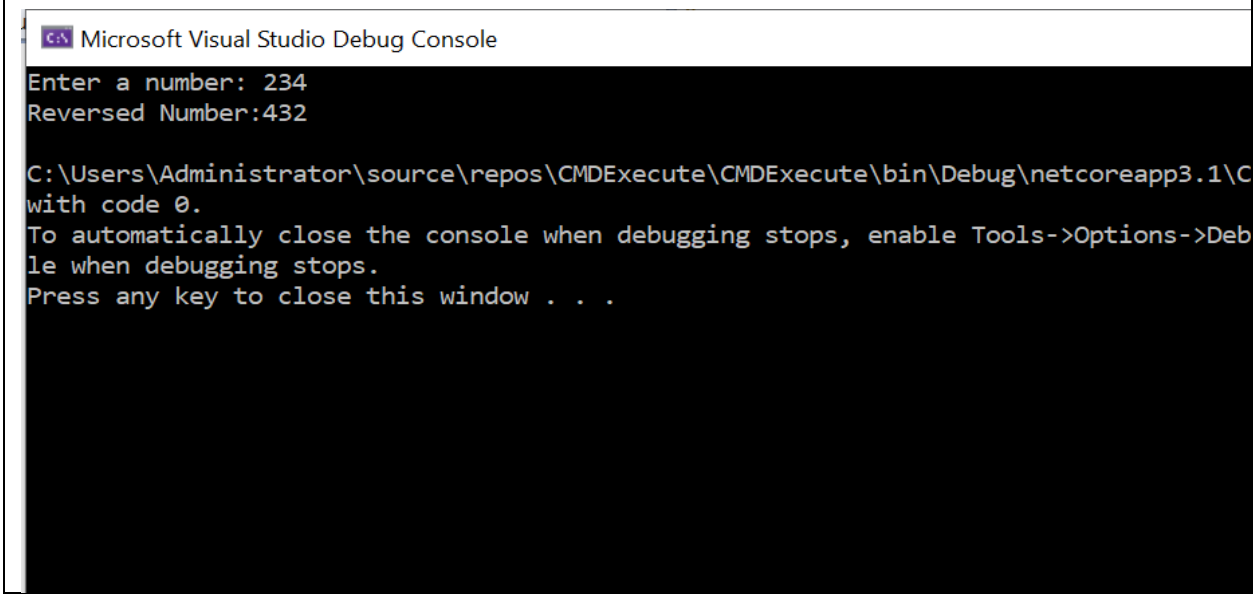



Program 15:write a c# program to print reverse of given number

code:

```
using System;

namespace CMDExecute
{
   internal class Program
   {
      public static void Main()
      {

         int n, reverse = 0, rem;
         Console.Write("Enter a number: ");
         n = Convert.ToInt32(Console.ReadLine());
         while (n != 0)
         {
            rem = n % 10;
            reverse = reverse * 10 + rem;
            n /= 10;
         }
         Console.WriteLine("Reversed Number:{0} " , reverse);
      }
   }
}
```

Output:

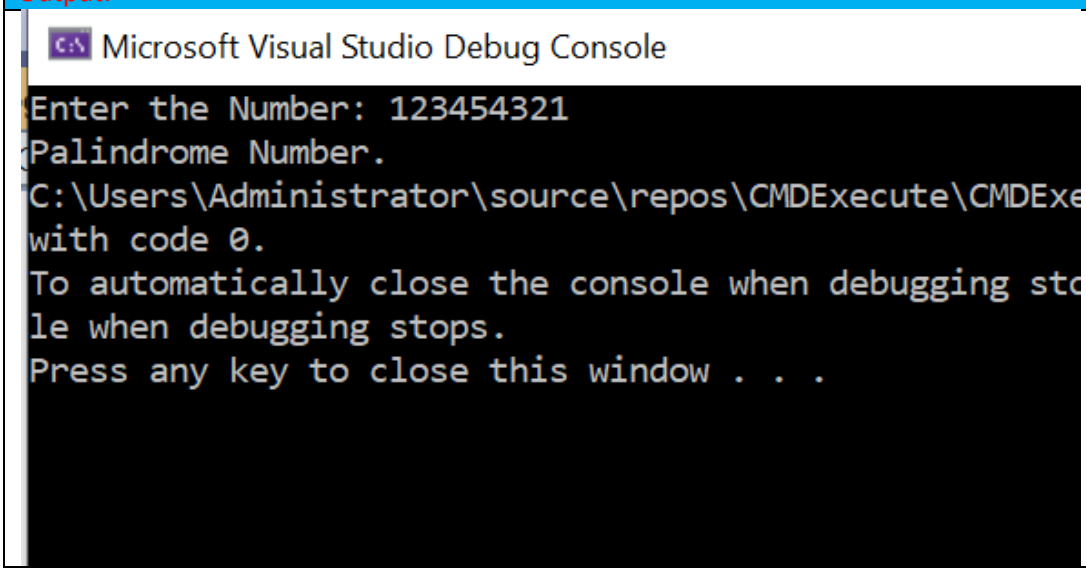



Program 16: write a c# program to print palindrome of given number

code:

```
using System;

namespace CMDExecute
{
    internal class Program
    {
        public static void Main()
        {

            int num, x, sum = 0, y;
            Console.Write("Enter the Number: ");
            num = Convert.ToInt32(Console.ReadLine());
            y = num;
            while (num > 0)
            {
                x = num % 10;
                sum = (sum * 10) + x;
                num = num / 10;
            }
            if (y == sum)
                Console.Write("Palindrome Number.");
            else
                Console.Write("Not a Palindrome Number.");
        }
    }
}
```

Output:

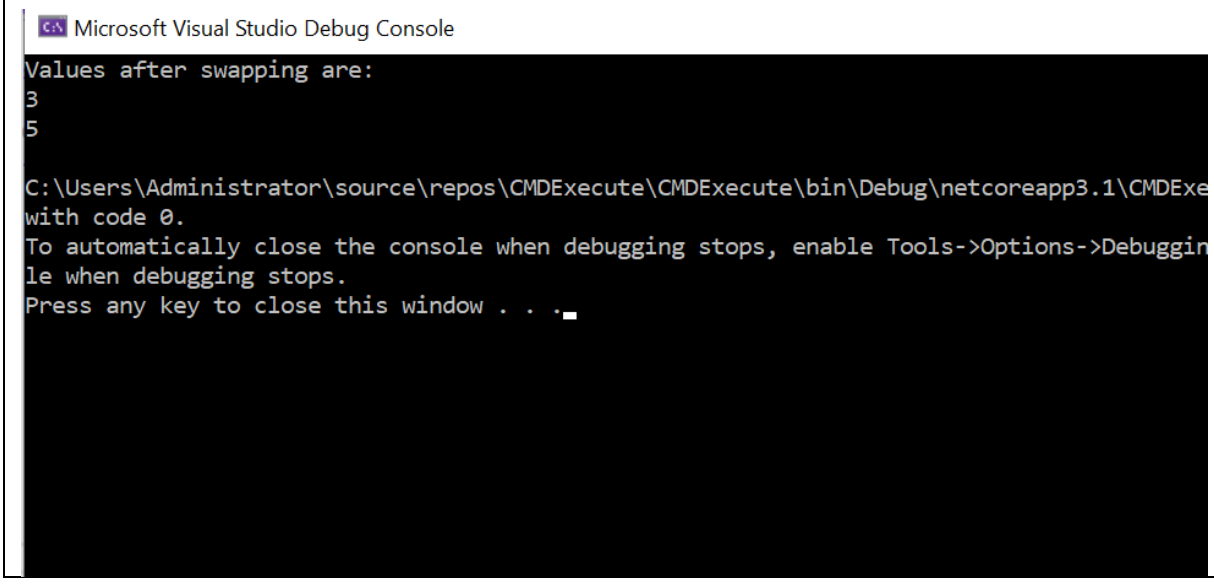


Program 17:write a C# program to print swapping numbers using third variable.

code:

```
using System;

namespace CMDExecute
{
        internal class Program
        {
                public static void Main()
                {

                        int a = 5, b = 3, temp;
                        temp = a;
                        a = b;
                        b = temp;

                        Console.WriteLine("Values after swapping are:");
                        Console.WriteLine("{0}", a);
                        Console.WriteLine("{0}", b);

                }
        }
}
```

Output:

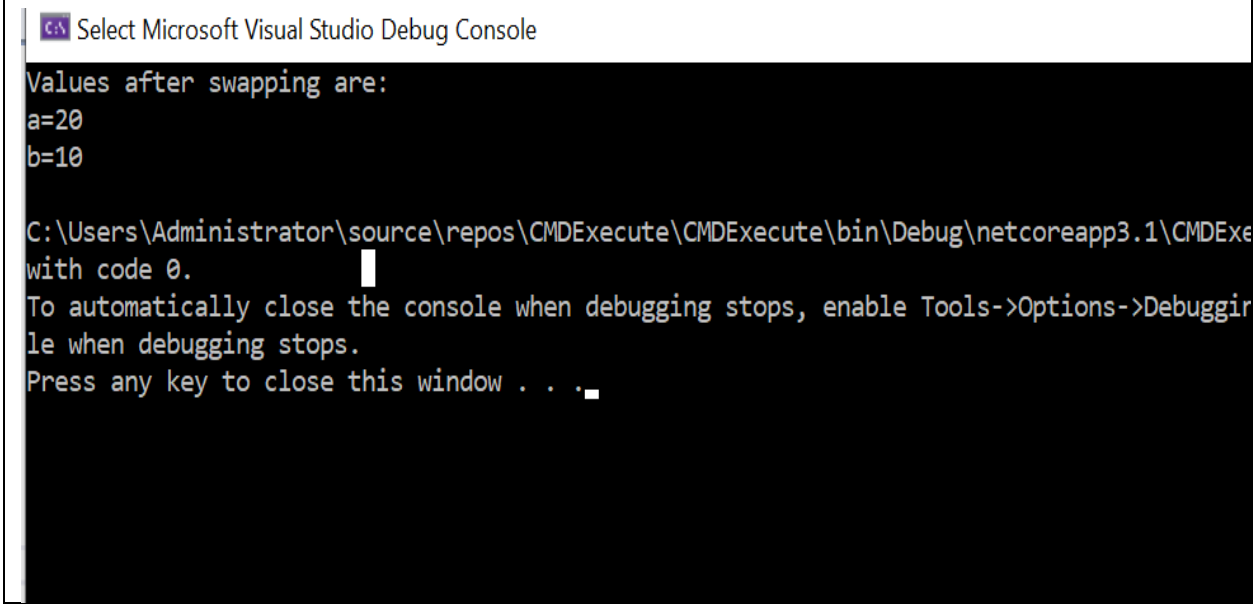



Program 18: write a C# program to print swapping numbers  without using third variable.

code:

```
using System;

namespace CMDExecute
{
        internal class Program
        {
                public static void Main()
                {

                        int a = 10, b = 20;
                        a = a + b;
                        b = a - b;
                        a = a - b;

                        Console.WriteLine("Values after swapping are:");
                        Console.WriteLine("a=" + a);
                        Console.WriteLine("b=" + b);

                }
        }

}
```

Output:




Program 19: write a C# program to print  Stars (*) in Right angled Triangle

code:

```
using System;

namespace CMDExecute
{
        internal class Program
        {                               static void Main(string[] args)
                {
                        int x, y;
                        Console.WriteLine("enter x value");
                        x = Convert.ToInt32(Console.ReadLine());
                        Console.WriteLine("enter y value");
                        y = Convert.ToInt32(Console.ReadLine());

                        for (x = 1; x <= 6; x++)
                        {
                                for (y = 1; y <= x; y++)
                                {
                                        Console.Write("*");
                                }
                                Console.WriteLine();
                        }
                        Console.ReadLine();
                }



        }
}
```

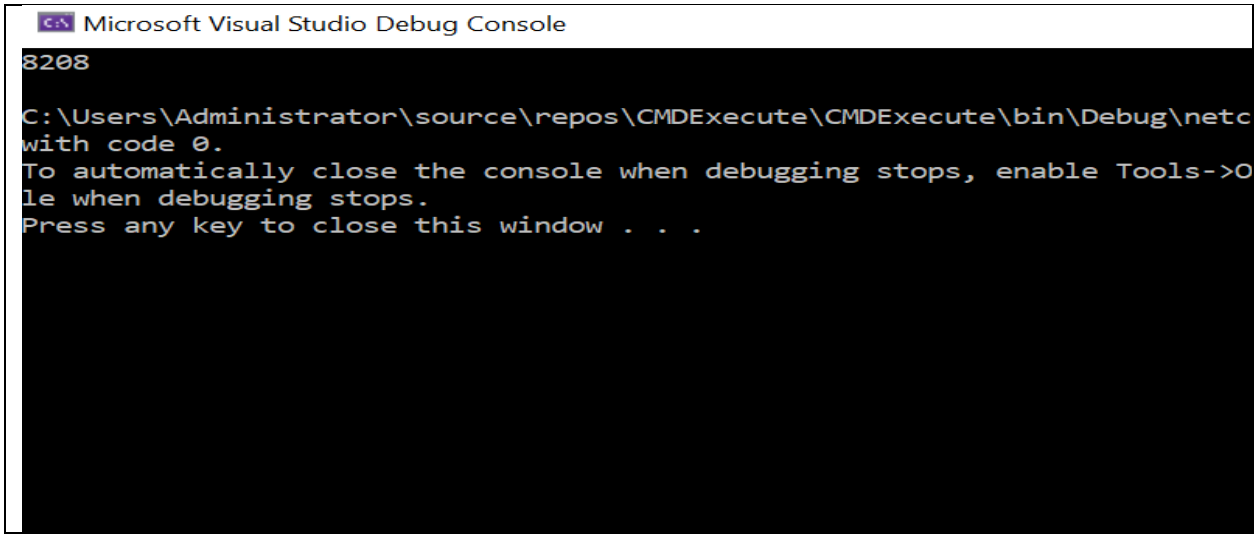
Output:


Program 20: write a C# program to print  Armstrong of number using functions

code:

```
using System;

namespace CMDExecute
{
   internal class Program
   {

         public static void Main(
            )
         {
            int n = 15;
            Console.WriteLine(ArmstrongNum(n));
         }
      static int ArmstrongNum(int n)
      {
         int cnt = 0;

         for (int m = 1; m <= int.MaxValue; m++)
         {
            int num = m, rem, digit = 0, res = 0;
            num = m;

            digit = (int)Math.Log10(num) + 1;

            while (num > 0)
            {
               rem = num % 10;
               res = res + (int)Math.Pow(rem, digit);
               num = num / 10;
            }

            if (m == res)
               cnt++;
            if (cnt == n)
               return m;
         }
         return n;
      }

   }


}
```

Output:


Microsoft Visual Studio Debug Console
8208
C:\Users\Administrator\source\repos\CMDExecute\CMDExecute\bin\Debug\netc
with code 0.
To automatically close the console when debugging stops, enable Tools->O
le when debugging stops.
Press any key to close this window . . .