20 C# Programs By

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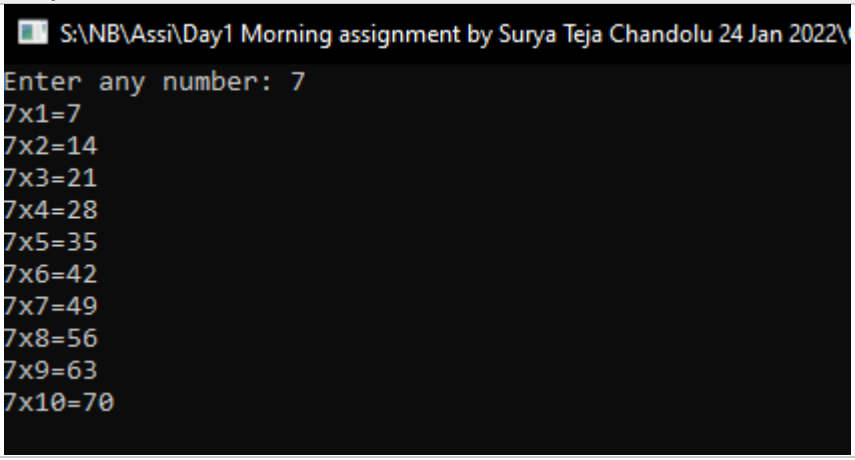
1. C# Program: To Print MULTIPLICATION TABLE of given number

Code:

```
using System;

namespace MultiplicationTableWhileLoop
{
    internal class Program
    {
        static void Main(string[] args)
        {
            //Initilize
            int input;

            //User Input
            Console.Write("Enter any number: ");
            input = Convert.ToInt32(Console.ReadLine());

            //Logic and Output

            int i = 1;

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

            Console.ReadLine();
        }
    }
}
```

Output:

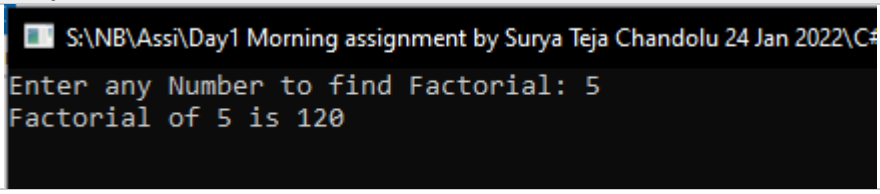


2. C# Program: Print FACTORIAL of a given number

Code:

```
using System;

namespace FactorialOfANumber
{
    internal class Program
    {
        static void Main(string[] args)
        {
            //Intialzing
            int input, fact = 1;

            //User Input
            Console.Write("Enter any Number to find Factorial: ");
            input = Convert.ToInt32(Console.ReadLine());

            //Logic
            for(int i = 1; i <= input; i++)
            {
                fact = fact * i;
            }

            //Output
            Console.WriteLine($"Factorial of {input} is {fact}");

            Console.ReadLine();
        }
    }
}
```

Output

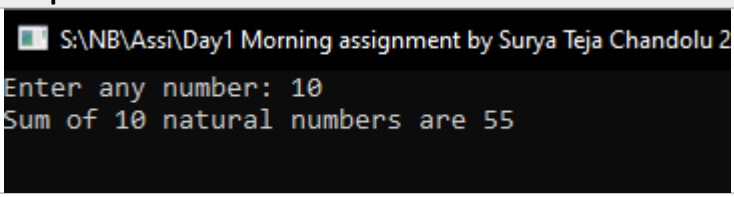


3. C# Program: Print SUM OF N Natural Numbers

Code:

```
using System;

namespace SumOfNNaturalNumbersForLoop
{
    internal class Program
    {
        static void Main(string[] args)
        {
            //Intialzing
            int input, sum = 0;

            //User Input
            Console.Write("Enter any number: ");
            input = Convert.ToInt32(Console.ReadLine());


            //Logic for sum of N natural numbers
            for (int i = 0; i <= input; i++)
            {
                sum = sum + i;
            }

            //Output
            Console.WriteLine($"Sum of {input} natural numbers are {sum}");

            Console.ReadLine();
        }
    }
}
```

Output

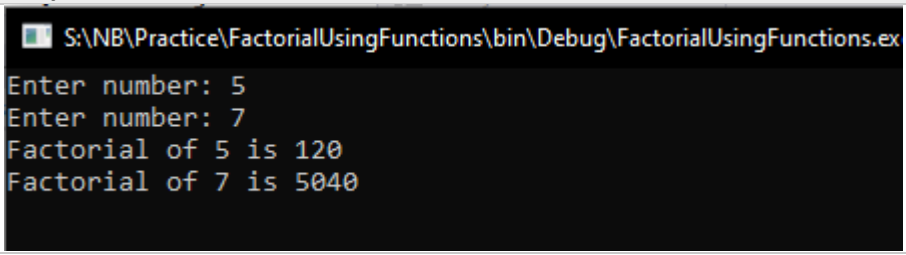


4. C# Program: Print FACTORIAL using FUNCTION

Code:

```
using System;

namespace FactorialUsingFunctions
{
    internal class Program
    {
        //Factorial Function
        public static int Factorial(int input)
        {
            int fact = 1;
            for (int i = 1; i <= input; i++)
                fact = fact * i;
            return fact;
        }

        //Output Function
        public static void Output(int input)
        {
            Console.WriteLine($"Factorial of {input} is {Factorial(input)}");
        }

        public static void Main(string[] args)
        {
            //Initilize
            int num, num1;

            //User Input
            Console.Write("Enter number: ");
            num = Convert.ToInt32(Console.ReadLine());

            Console.Write("Enter number: ");
            num1 = Convert.ToInt32(Console.ReadLine());

            Output(num);
            Output(num1);

            Console.ReadLine();
        }
    }
}
```

Output:

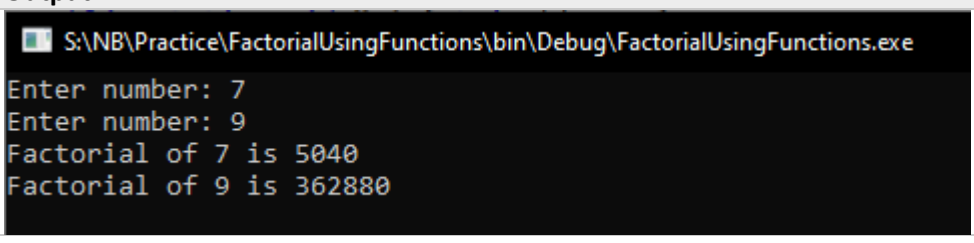


5. C# Program: Print FACTORIAL using RECURSION

Code:

```
using System;
using System.Collections.Generic;
using System.Linq;
using System.Text;
using System.Threading.Tasks;

namespace FactorialUsingFunctions
{
    internal class Program
    {
        //Factorial Function Using Recursion
        public static int Factorial(int input)
        {
            if (input == 0)
                return 1;
            else
                return input * Factorial(input - 1);
        }

        //Output Function
        public static void Output(int input)
        {
            Console.WriteLine($"Factorial of {input} is {Factorial(input)}");
        }

        public static void Main(string[] args)
        {
            //Initilize
            int num, num1;

            //User Input
            Console.Write("Enter number: ");
            num = Convert.ToInt32(Console.ReadLine());

            Console.Write("Enter number: ");
            num1 = Convert.ToInt32(Console.ReadLine());

            Output(num);
            Output(num1);

            Console.ReadLine();
        }
    }
}
```

Output:

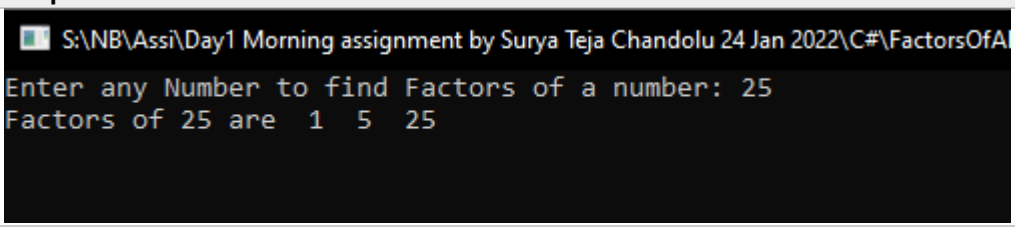


6. C# Program: Print FACTORS of given number

Code:

```
using System;

namespace FactorsOfANumber
{
    internal class Program
    {
        static void Main(string[] args)
        {
            //Intialzing
            int input;

            //User Input
            Console.Write("Enter any Number to find Factors of a number: ");
            input = Convert.ToInt32(Console.ReadLine());

            //Logic and Output
            Console.Write($"Factors of {input} are  ");
            for (int i = 1; i <= input; i++)
            {
                if(input%i == 0)
                {
                    Console.Write($"{i}  ");
                }
            }


            Console.ReadLine();
        }
    }
}
```

Output:

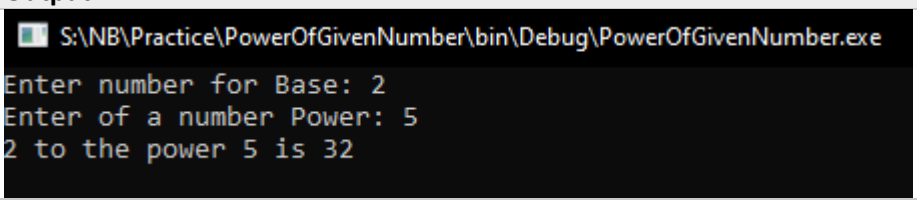


7. C# Program: Print POWER of Given numbers [a power b]

Code:

```
using System;

namespace PowerOfGivenNumber
{
    internal class Program
    {
        static void Main(string[] args)
        {
            int bas, power, value = 1;

            Console.Write("Enter number for Base: ");
            bas = Convert.ToInt32(Console.ReadLine());

            Console.Write("Enter of a number Power: ");
            power = Convert.ToInt32(Console.ReadLine());

            for(int i = 1; i <= power; i++)
            {
                value = value * bas;
            }
            Console.WriteLine($"{bas} to the power {power} is {value}");

            Console.ReadLine();
        }
    }
}
```

Output:

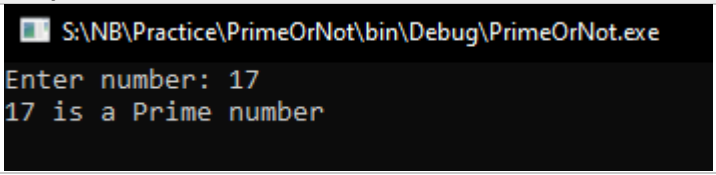


8. C# Program: PRIME NUMBER or Not

Code:

```
using System;

namespace PrimeOrNot
{
    internal class Program
    {
        static void Main(string[] args)
        {
            int input, i;

            Console.Write("Enter number: ");
            input = Convert.ToInt32(Console.ReadLine());

            for(i = 2; i < input; i++)
            {
                if (input % 2 == 0)
                    break;
            }
            if (i == input)
                Console.WriteLine($"{input} is a Prime number");
            else
                Console.WriteLine($"{input} is not a Prime number");

            Console.ReadLine();
        }
    }
}
```

Output:

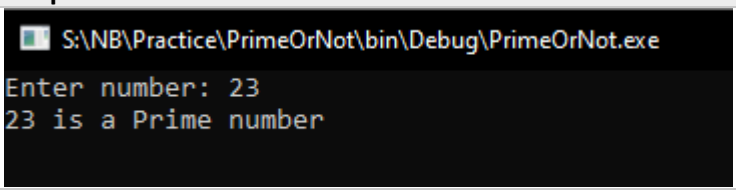


9. C# Program: PRIME NUMBER check [Using FUNCTION]

Code:

```
using System;

namespace PrimeOrNot
{
    internal class Program
    {
        public static void Prime(int input)
        {
            int i;
            for (i = 2; i < input; i++)
            {
                if (input % i == 0)
                    break;
            }
            if (i == input)
                Console.WriteLine($"{input} is a Prime number");
            else
                Console.WriteLine($"{input} is not a Prime number");
        }
        static void Main(string[] args)
        {
            Console.Write("Enter number: ");
            Prime(Convert.ToInt32(Console.ReadLine()));


            Console.ReadLine();
        }
    }
}
```

Output:

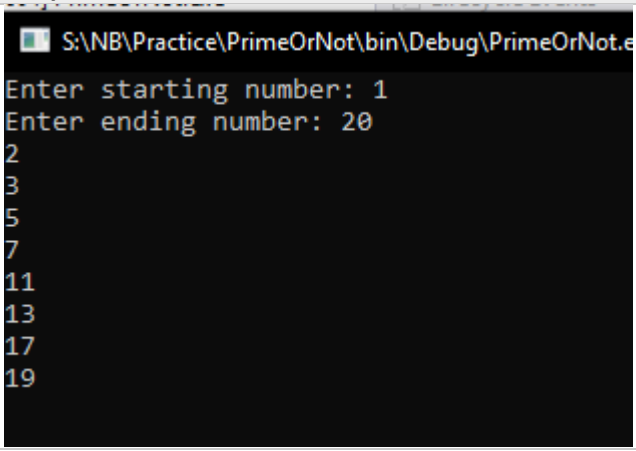


10. C# Program: PRIME NUMBERS in RANGE

Code:

```
using System;

namespace PrimeOrNot
{
    internal class Program
    {
        //Prime using Function
        public static bool Prime(int input)
        {
            int i;
            for (i = 2; i < input; i++)
            {
                if (input % i == 0)
                    break;
            }
            if (i == input)
                return true;
            else
                return false;
        }
        static void Main(string[] args)
        {
            int start, end;

            Console.Write("Enter starting number: ");
            start = Convert.ToInt32(Console.ReadLine());

            Console.Write("Enter ending number: ");
            end = Convert.ToInt32(Console.ReadLine());

            for(int i = start; i <= end; i++)
            {
                if(Prime(i))
                    Console.WriteLine(i);
            }

            Console.ReadLine();
        }
    }
}
```

Output:

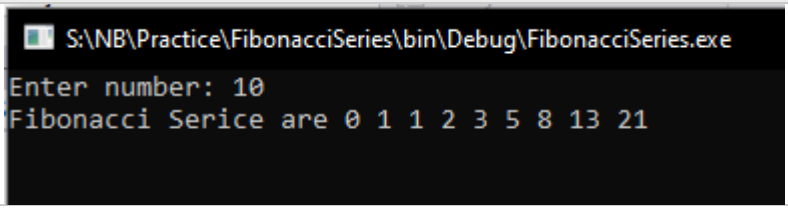


11. C# Program: FIBONACCI SERIES

Code:

```
using System;

namespace FibonacciSeries
{
    internal class Program
    {
        static void Main(string[] args)
        {
            int num, firstNumber = 0, secondNumber = 1, value;

            Console.Write("Enter number: ");
            num = Convert.ToInt32(Console.ReadLine());

            Console.Write("Fibonacci Serice are 0 1 ");

            for(int i = 1; i < num - 2; i++)
            {
                value = firstNumber + secondNumber;
                firstNumber = secondNumber;
                secondNumber = value;
                Console.Write($"{value} ");
            }
            Console.ReadLine();
        }
    }
}
```

Output:

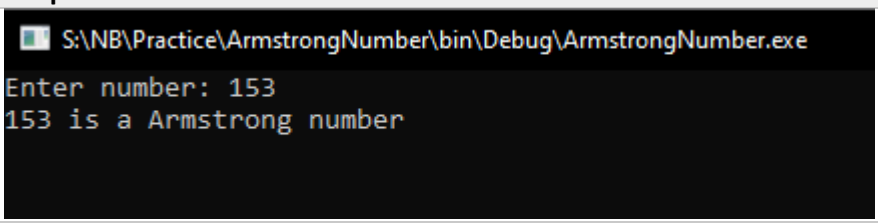


12. C# Program: ARMSTRONG NUMBER

Code:

```
using System;

namespace ArmstrongNumber
{
    internal class Program
    {
        static void Main(string[] args)
        {
            int num, rem, sum = 0, temp;

            Console.Write("Enter number: ");
            num = Convert.ToInt32(Console.ReadLine());

            temp = num;

            while(num > 0)
            {
                rem = num % 10;
                sum = sum + (rem*rem*rem);
                num = num / 10;
            }
            if(temp == sum)
                Console.WriteLine($"{temp} is a Armstrong number");
            else
                Console.WriteLine($"{temp} is not a Armstrong number");

            Console.ReadLine();
        }
    }
}
```

Output:

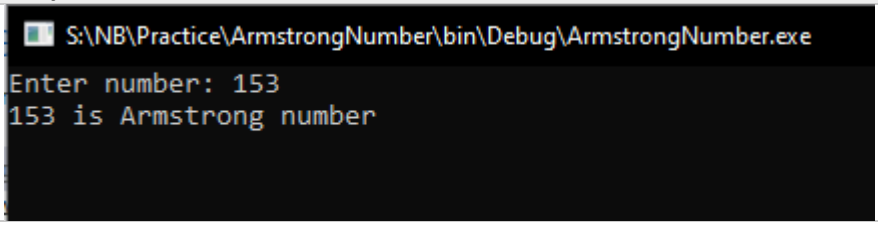


13. C# Program: ARMSTRONG NUMBER [using FUNCTION]

Code:

```
using System;

namespace ArmstrongNumber
{
    internal class Program
    {
        public static bool Armstrong(int num)
        {
            int rem, sum = 0, temp;
            temp = num;

            while (num > 0)
            {
                rem = num % 10;
                sum = sum + (rem * rem * rem);
                num = num / 10;
            }
            if (temp == sum)
                return true;
            else
                return false;
        }
        static void Main(string[] args)
        {
            int num;

            Console.Write("Enter number: ");
            num = Convert.ToInt32(Console.ReadLine());
            if (Armstrong(num) == true)
                Console.WriteLine($"{num} is Armstrong number");
            else
                Console.WriteLine($"{num} is not a Armstrong number");
            Console.ReadLine();
        }
    }
}
```

Output:



14. C# Program: ARMSTRONG NUMBERS IN RANGE

Code:

```
using System;

namespace ArmstrongNumber
{
    internal class Program
    {
        public static bool Armstrong(int num)
        {
            int rem, sum = 0, temp;
            temp = num;

            while (num > 0)
            {
                rem = num % 10;
                sum = sum + (rem * rem * rem);
                num = num / 10;
            }
            if (temp == sum)
                return true;
            else
                return false;
        }
        static void Main(string[] args)
        {
            int num, num1;

            Console.Write("Enter first number: ");
            num = Convert.ToInt32(Console.ReadLine());

            Console.Write("Enter Second number: ");
            num1 = Convert.ToInt32(Console.ReadLine());

            for(int i = num; i <= num1; i++)
            {
                if(Armstrong(i))
                    Console.WriteLine($"Armstrong number are {i}");
            }

            Console.ReadLine();
        }
    }
}
```

Output:

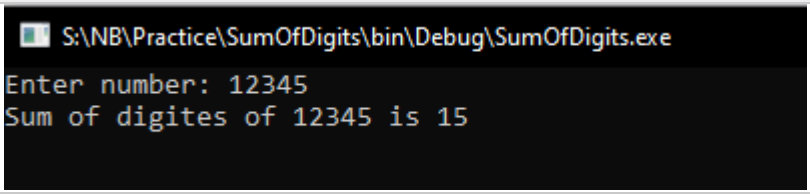
```
S:\NB\Practice\ArmstrongNumber\bin\Debug\ArmstrongNumber.exe
Enter first number: 1
Enter Second number: 1000
Armstrong number are 1
Armstrong number are 153
Armstrong number are 370
Armstrong number are 371
Armstrong number are 407
```

15. C# Program: SUM OF DIGITS of given number

Code:

```
using System;

namespace SumOfDigits
{
    internal class Program
    {
        static void Main(string[] args)
        {
            int num, rem, sum = 0, temp;

            Console.Write("Enter number: ");
            num = Convert.ToInt32(Console.ReadLine());

            temp = num;

            while (num > 0)
            {
                rem = num % 10;
                num = num / 10;
                sum = sum + rem;
            }

            Console.WriteLine($"Sum of digites of {temp} is {sum}");

            Console.ReadLine();
        }
    }
}
```

Output:

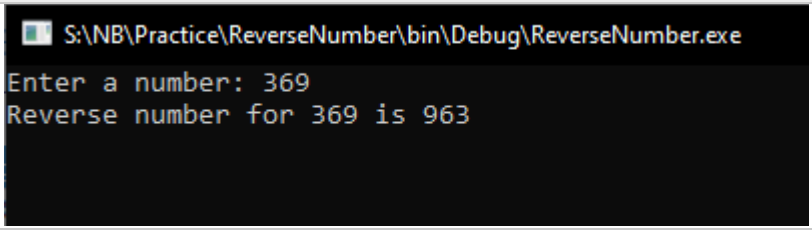


16. C# Program: REVERSE OF given number

Code:

```
using System;

namespace ReverseNumber
{
    internal class Program
    {
        static void Main(string[] args)
        {
            int num, smp, rev = 0, rem;

            Console.Write("Enter a number: ");
            num = Convert.ToInt32(Console.ReadLine());

            smp = num;

            while(num > 0)
            {
                rem = num % 10;
                rev = (rev * 10) + rem;
                num = num / 10;
            }

            Console.WriteLine($"Reverse number for {smp} is {rev}");

            Console.ReadLine();
        }
    }
}
```

Output:

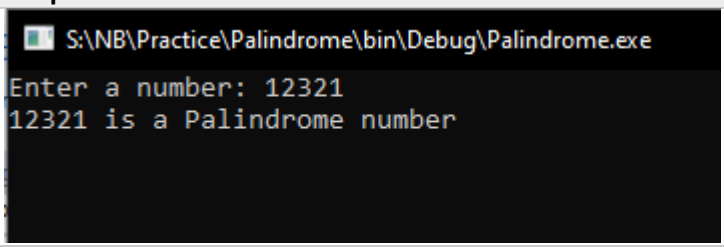


17. C# Program: PALINDROME NUMBER

Code:

```
using System;

namespace Palindrome
{
    internal class Program
    {
        static void Main(string[] args)
        {
            int num , temp, sum = 0, rem;

            Console.Write("Enter a number: ");
            num = Convert.ToInt32(Console.ReadLine());

            temp = num;

            while (num > 0)
            {
                rem = num % 10;
                sum = (sum * 10) + rem;
                num = num / 10;
            }

            if(temp == sum)
                Console.WriteLine($"{temp} is a Palindrome number");
            else
                Console.WriteLine($"{temp} is not a Palindrome number");

            Console.ReadLine();

        }
    }
}
```

Output:

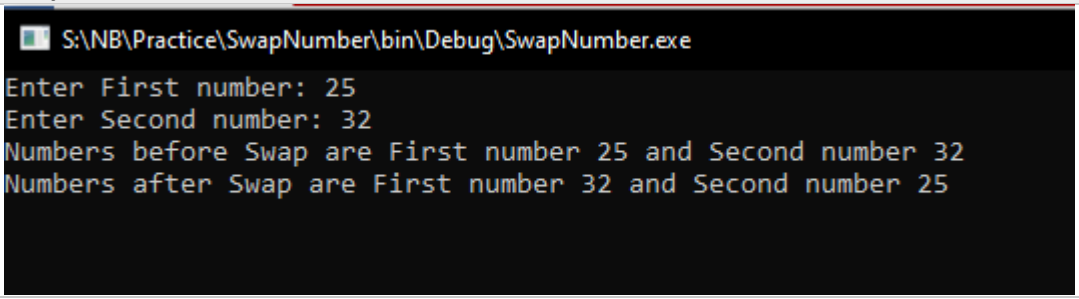


18. C# Program: SWAP NUMBERS using THIRD VARIABLE

Code:

```
using System;

namespace SwapNumber
{
    internal class Program
    {
        static void Main(string[] args)
        {
            int firstNumber, secondNumber, temp;

            Console.Write("Enter First number: ");
            firstNumber = Convert.ToInt32(Console.ReadLine());

            Console.Write("Enter Second number: ");
            secondNumber = Convert.ToInt32(Console.ReadLine());

            Console.WriteLine($"Numbers before Swap are First number
{firstNumber} and Second number {secondNumber}");
            temp = firstNumber;
            firstNumber = secondNumber;
            secondNumber = temp;

            Console.WriteLine($"Numbers after Swap are First number
{firstNumber} and Second number {secondNumber}");

            Console.ReadLine();
        }
    }
}
```

Output:

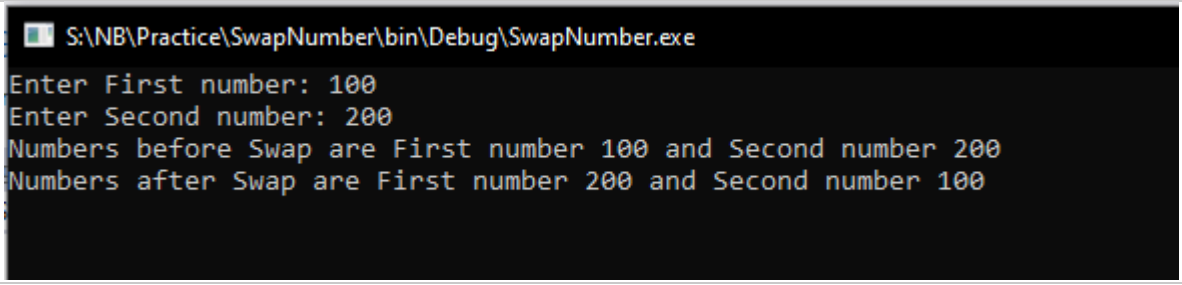


19. C# Program: SWAP NUMBERS WITHOUT using THIRD VARIABLE

Code:

```
using System;

namespace SwapNumber
{
    internal class Program
    {
        static void Main(string[] args)
        {
            int firstNumber, secondNumber;

            Console.Write("Enter First number: ");
            firstNumber = Convert.ToInt32(Console.ReadLine());

            Console.Write("Enter Second number: ");
            secondNumber = Convert.ToInt32(Console.ReadLine());

            Console.WriteLine($"Numbers before Swap are First number
{firstNumber} and Second number {secondNumber}");

            firstNumber = firstNumber + secondNumber;
            secondNumber = firstNumber - secondNumber;
            firstNumber = firstNumber - secondNumber;

            Console.WriteLine($"Numbers after Swap are First number
{firstNumber} and Second number {secondNumber}");

            Console.ReadLine();
        }
    }
}
```

Output:



20. C# Program: Print Stars (*) in Pattern - 1 [Right angled triangle pattern]

Code:

```
using System;

namespace Pattern
{
    internal class Program
    {
        static void Main(string[] args)
        {
            int num;

            Console.Write("Enter Number: ");
            num = Convert.ToInt32(Console.ReadLine());
            for (int i = 1; i <= num; i++)
            {
                for (int j = 1; j <= i; j++)
                {
                    Console.Write("*");
                }
                Console.WriteLine();
            }

            Console.ReadLine();
        }
    }
}
```

Output: