20 c# Programs Assignment

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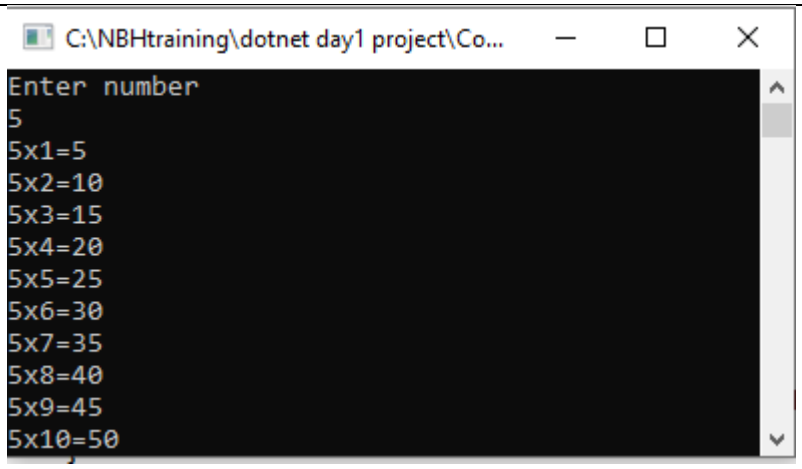
27-Jan-22

Program1:

WACP to Multiplication Table of a given number?

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

namespace Consolewhilemultiplication
{
    internal class Program
    {
        static void Main(string[] args)
        {
            int input, i = 1;

            Console.WriteLine("Enter number");
            input=Convert.ToInt32(Console.ReadLine());
            while(i<=10)
            {
                Console.WriteLine("{0}x{1}={2}", input, i, input * i);
                i++;
            }
          Console.ReadLine();

        }
    }
}
```

Output:



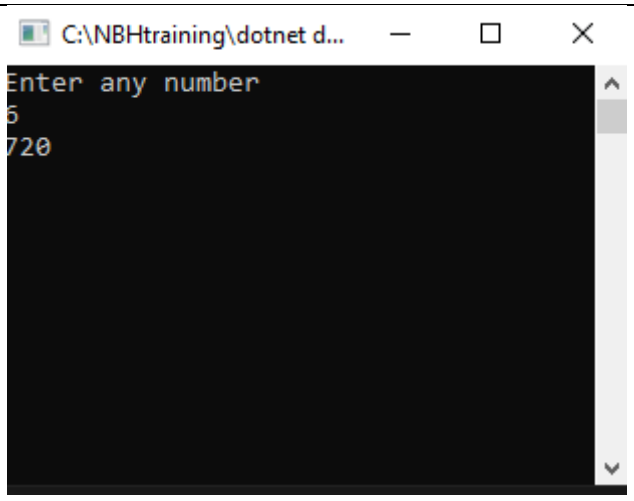
Programm2:

WACP to Print Factorial of a given number?

Code:

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

namespace ConsoleFactorial
{
    internal class Program
    {
        static void Main(string[] args)
        {
            //Variable declaration
            int input, product = 1, i;
            //User output
            Console.WriteLine("Enter any number");
            input=Convert.ToInt32(Console.ReadLine());
            //Logic
            for(i=1;i<=input;i++)
            { product = product * i; }
            //output
            Console.WriteLine(product);
            Console.ReadLine();
        }
    }
}
```

Output:



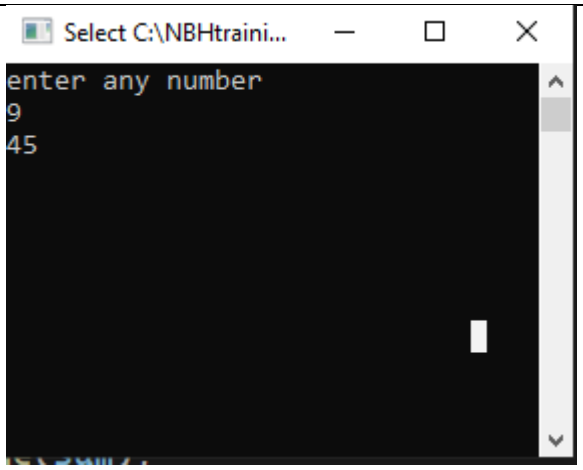
Program3:

WACP to Print SUM OF N Natural Numbers?

Code:

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

namespace consolesum_of_naturalnumbers
{
    internal class Program
    {
        static void Main(string[] args)
        {
            //Variable declaration
            int input, sum = 0, i;
            //User input
            Console.WriteLine("enter any number");
            input=Convert.ToInt32(Console.ReadLine());
            //Logic
            for(i=1;i<=input;i++)
            { sum = sum + i; }
            //print output
            Console.WriteLine(sum);
            Console.ReadLine();
        }
    }
}
```

Output:



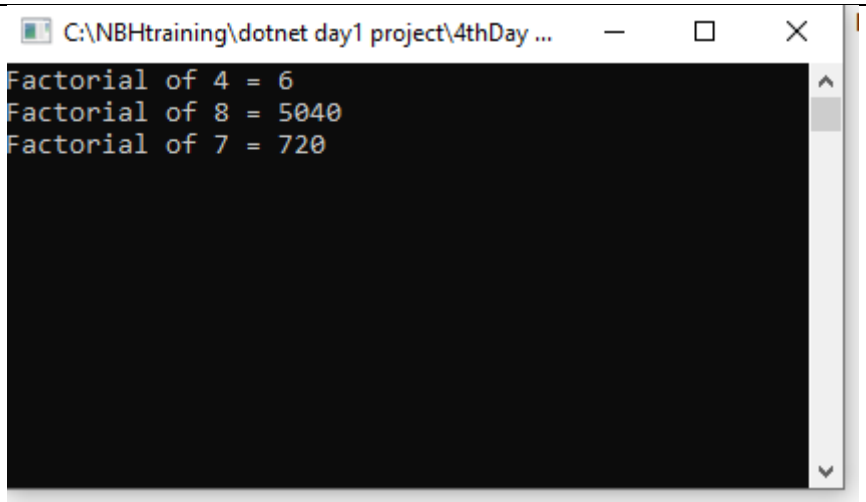
Program4:

WACP to PRINT FACTORIAL using FUNCTION?

Code:

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

namespace Factorial_by_Function
{
    internal class Program
    {
        public static int Factorial(int n)
        {
            int fact = 1;
            for (int i = 1; i < n; i++)
                fact *= i;
            return fact;
        }
        public static void Print(int n)
        {
            Console.WriteLine("Factorial of {0} = {1}", n, Factorial(n));
        }
        static void Main(string[] args)
        {
            int n = 4, n1 = 8, n2 = 7;

            Print(n);
            Print(n1);
            Print(n2);
            Console.ReadLine();



        }
    }
}
```

Output:



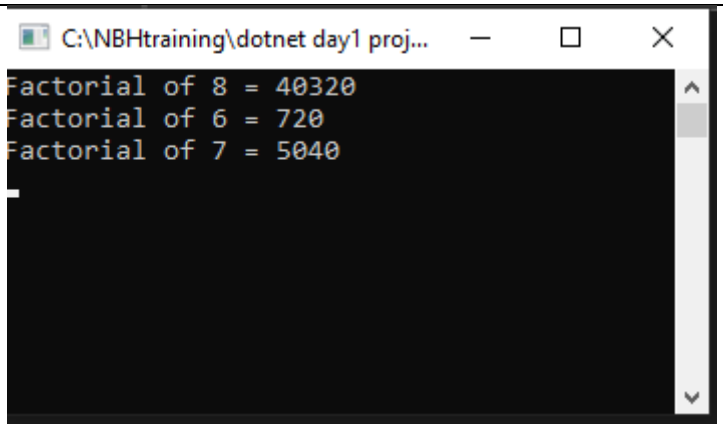
Program5:

WACP to Print FACTORIAL using RECURSION?

Code:

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

namespace Recursion
{
    internal class Program
    {
        public static int Factorial(int n)
        {
            if(n== 0)
                return 1;
            else
                return n * Factorial(n - 1);
        }
        public static void Print(int n)
        {
            Console.WriteLine("Factorial of {0} = {1}" ,n, Factorial(n));
        }
        static void Main(string[] args)
        {
            int n = 8, n1 = 6, n2 = 7;
            Print(n);
            Print(n1);
            Print(n2);
            Console.ReadLine();
        }
    }
}
```

Output:



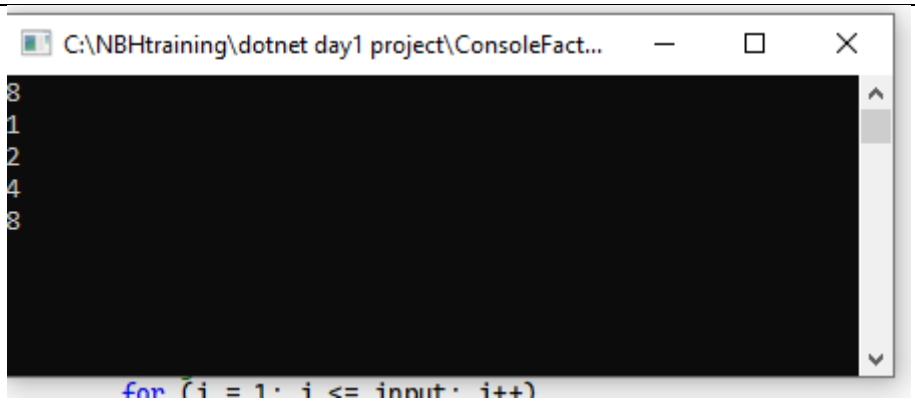
Program6:

WACP to Print FACTORS of a given number?

Code:

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

namespace ConsoleFactorsapp
{
    internal class Program
    {
        static void Main(string[] args)
        {
            //Variable declaration
            int input, i;

            //Read input from user
            Console.WriteLine("Enter any number");
            input = Convert.ToInt32(Console.ReadLine());

            //logic
            for (i = 1; i <= input; i++)
            {
                if (input % i == 0)
                    Console.WriteLine(i);
            }
            Console.ReadLine();
        }

    }
}
```

Output:



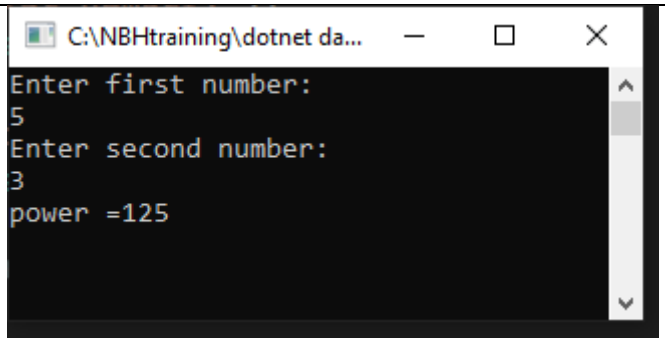
Program7:

WACP to print POWER of given numbers?

Code:

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

namespace Project3Day1
{
    internal class Program
    {
        static void Main(string[] args)
        {
            int fn, sn, sum = 0;
            int p = 1;

            fn = 60;

            Console.WriteLine("Enter first number:");
            fn = Convert.ToInt32(Console.ReadLine());

            Console.WriteLine("Enter second number:");
            sn = Convert.ToInt32(Console.ReadLine());

             for (int i = 1; i<= sn; i++)

                p = p * fn;

            Console.WriteLine("power =" + p);

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

Output:



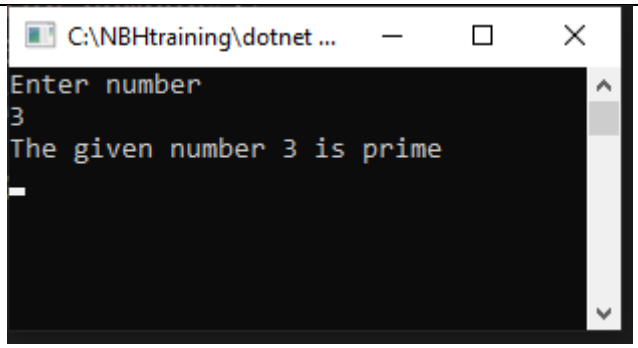
Program8:

WACP to check given number is a PRIME NUMBER or NOT?

Code:

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

namespace Primenumbers
{
    internal class Program
    {
        static void Main(string[] args)
        {
            int input, i, count = 0;

            Console.WriteLine("Enter number");
            input = Convert.ToInt32(Console.ReadLine());
            for( i = 2; i < input; i++)
            {
                if (input % i == 0)
                    break;

            }
            if (i == input)
                Console.WriteLine("The given number {0} is prime", input);
            else
                Console.WriteLine("The given number {0} is not a prime", input);
            Console.ReadLine();
        }
    }
}
```

Output:



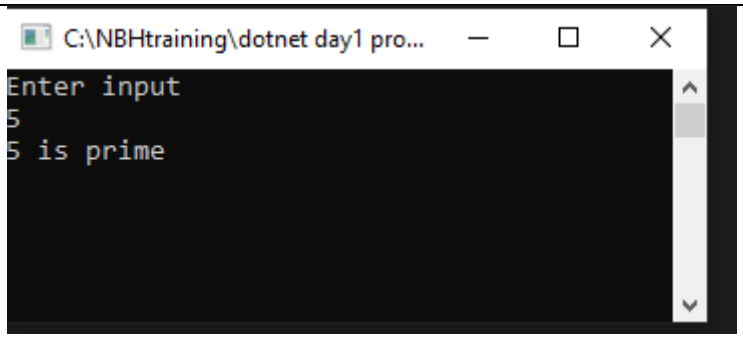
Program 9:

WACP to PRIME NUMBER check using function?

Code:

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

namespace Primenumber_by_Function
{
    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("{0} is prime",input);
            else
                Console.WriteLine("{0} is consonent",input);
        }
        static void Main(string[] args)
        {
            Console.WriteLine("Enter input");
            Prime(Convert.ToInt32(Console.ReadLine()));
            Console.ReadLine();
        }
    }
}
```

Output:



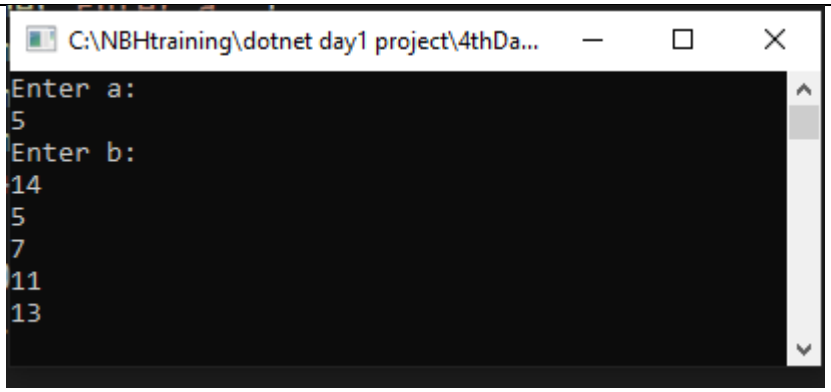
Program 10

WACP to Print PRIME NUMBERS in RANGE?

Code:

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

namespace Prime_by_Range
{
    internal class Program
    {
        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 i,a, b;
            Console.WriteLine("Enter a:");
            a = Convert.ToInt32(Console.ReadLine());
            Console.WriteLine("Enter b:");
            b = Convert.ToInt32(Console.ReadLine());
            for(i=a;i<=b;i++)
            {
                if(Prime(i))
                    Console.WriteLine(i);

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

Output:



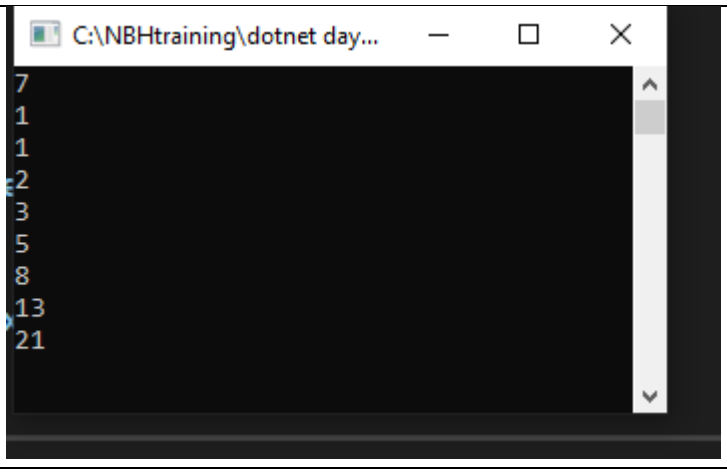
Program 11:

WACP to PRINT FIBONACCI SERIES?

Code:

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

namespace Fibonacci_Series
{
    internal class Program
    {
        static void Main(string[] args)
        {
            int input;
            Console.WriteLine("Enter input");
            input=Convert.ToInt32(Console.ReadLine());
            int next = 0;
            int prev = 0;
            for(int i = 0;i<=input;i++)
            {
                if(next == 0)
                {
                    next = 1;
                }
                else
                {
                    int temp = next;
                    next = next + prev;
                    prev = temp;
                }
                Console.WriteLine(next);

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

Output:



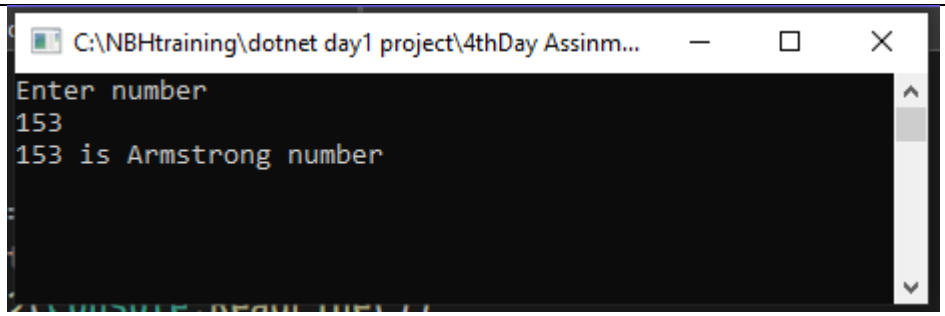
Program 12:

WACP to print ARMSTRONG NUMBER?

Code:

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

namespace Armstrong_Number
{
    internal class Program
    {
        static void Main(string[] args)
        {
            int number, rem, sum = 0, temp;
            Console.WriteLine("Enter number");
            number=Convert.ToInt32(Console.ReadLine());
            temp = number;
            while(number > 0)
            {
                rem = number % 10;
                sum = sum + (rem * rem * rem);
                number = number / 10;
            }
            if (temp == sum)
            {
                Console.WriteLine("{0} is Armstrong number", temp);
            }
            else
            {
                Console.WriteLine("{0} is not Armstrong number", temp);
            }
            Console.ReadLine();
        }
    }
}
```

Output:



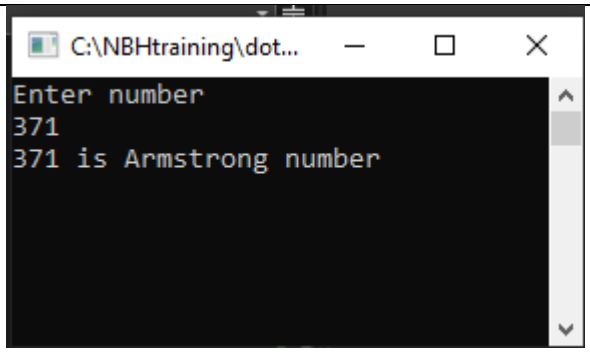
Program 13:

WACP to print ARMSTRONG NUMBER by using function?

Code:

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

namespace Armstrong_by_function
{
    internal class Program
    {
        public static bool Arm(int number)
        {
            int temp, sum = 0, rem;
            temp = number;
            while(number > 0)
            {
                rem = number % 10;
                sum = sum +(rem*rem*rem);
                number = number / 10;
            }
            if (temp == sum)
            {
                return true;
            }
            else
            {
                return false;
            }
        }
        static void Main(string[] args)
        {
            int number;
            Console.WriteLine("Enter number");
            number=Convert.ToInt32(Console.ReadLine());
            if(Arm(number)==true)
                Console.WriteLine("{0} is Armstrong number", number);
            else
                Console.WriteLine("{0} is not a Armstrong number", number);
            Console.ReadLine();
        }
    }
}
```

Output :



Program 14:

WACP to print ARMSTRONG numbers Range?

Code:

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

namespace Armstrong_numbers_in_Range
{
    internal class Program
    {
        public static bool Arm(int number)
        {
            int temp, sum = 0, rem;
            temp = number;
            while (number > 0)
            {
                rem = number % 10;
                sum = sum +(rem*rem*rem);
                number = number / 10;
            }
            if (temp==sum)
            {
                return true;
            }
            else
            {
                return false;
            }
        }
        static void Main(string[] args)
        {
            int a, b;
            Console.WriteLine("Enter a:");
            a = Convert.ToInt32(Console.ReadLine());
            Console.WriteLine("Enter b:");
            b=Convert.ToInt32(Console.ReadLine());
            for(int i = a; i<= b; i++)
            {
                if (Arm(i))
                    Console.WriteLine(i);
            }
            Console.ReadLine();



        }
    }
}
```

Output:

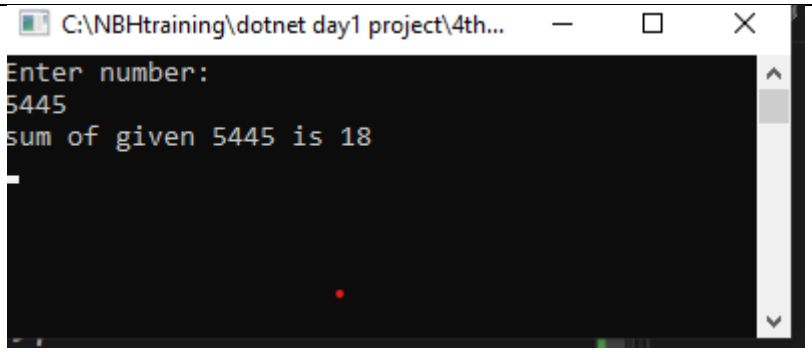
Program15:

WACP to SUM OF DIGITS of given number?

Code:

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

namespace SUM_OF_DIGITS
{
    internal class Program
    {
        static void Main(string[] args)
        {
            int rem, sum = 0, number;
            Console.WriteLine("Enter number:");
            number=Convert.ToInt32(Console.ReadLine());
            int temp = number;
            while(number>0)
            {
                rem = number % 10;
                sum=sum+rem;
                number = number / 10;
            }
            Console.WriteLine("sum of given {0} is {1} ",temp,sum);
            Console.ReadLine();
        }
    }
}
```

Output:



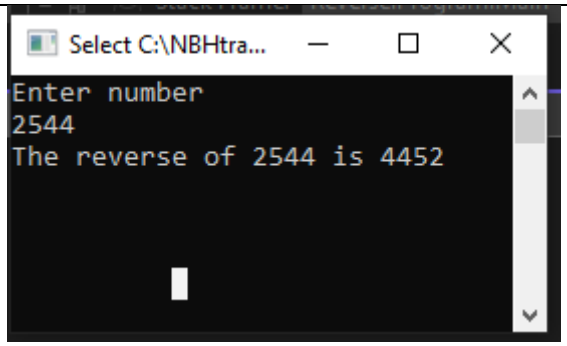
Program16:

WACP to print REVERSE of a given number?

Code:

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

namespace Reverse
{
    internal class Program
    {
        static void Main(string[] args)
        {
            int n, temp, rem, rev = 0;
            Console.WriteLine("Enter number");
            n=Convert.ToInt32(Console.ReadLine());
            temp = n;
            while(n>0)
            {
                rem = n % 10;
                rev = (rev * 10) + rem;
                n = n / 10;
            }
            Console.WriteLine("The reverse of {0} is {1}", temp,rev);
            Console.ReadLine();
        }
    }
}
```

Output:



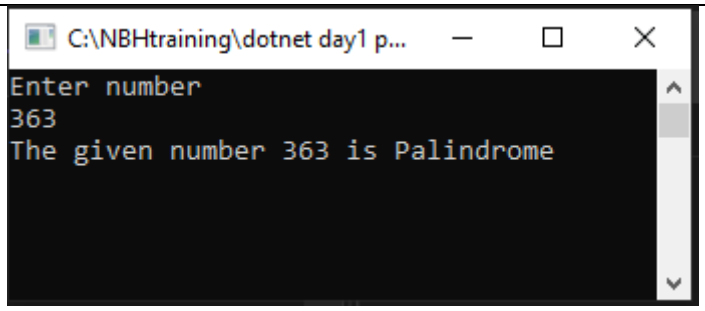
Program17:

WACP to print PALINDROME NUMBER?

Code:

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

namespace Reverse
{
    internal class Program
    {
        static void Main(string[] args)
        {
            int n, temp, rem, rev = 0;
            Console.WriteLine("Enter number");
            n=Convert.ToInt32(Console.ReadLine());
            temp = n;
            while(n>0)
            {
                rem = n % 10;
                rev = (rev * 10) + rem;
                n = n / 10;
            }
            if (temp == rev)
                Console.WriteLine("The given number {0} is Palindrome", temp);
            else
            Console.WriteLine("The given number {0} is not a Palindrome", temp);
            Console.ReadLine();
        }
    }
}
```

Output:



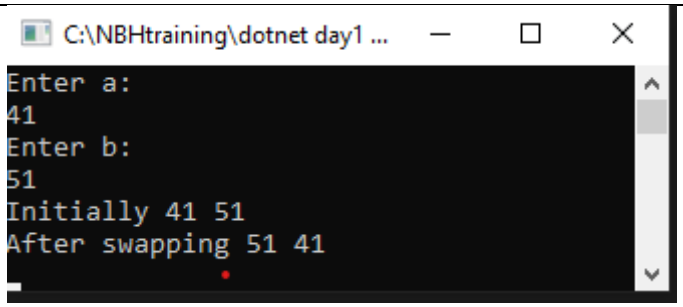
Program18:

WACP to SWAP NUMBERS using THIRD VARIABLE?

Code:

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

namespace Swaping_od_Numbers
{
    internal class Program
    {
        static void Main(string[] args)
        {
            int temp, a , b;
            Console.WriteLine("Enter a:");
            a = Convert.ToInt32(Console.ReadLine());
            Console.WriteLine("Enter b:");
            b = Convert.ToInt32(Console.ReadLine());
            Console.WriteLine("Initially {0} {1}",a,b);
            temp = a;
            a = b;
            b = temp;
            Console.WriteLine("After swapping {0} {1}", a,b);
            Console.ReadLine();
        }
    }
}
```

Output:



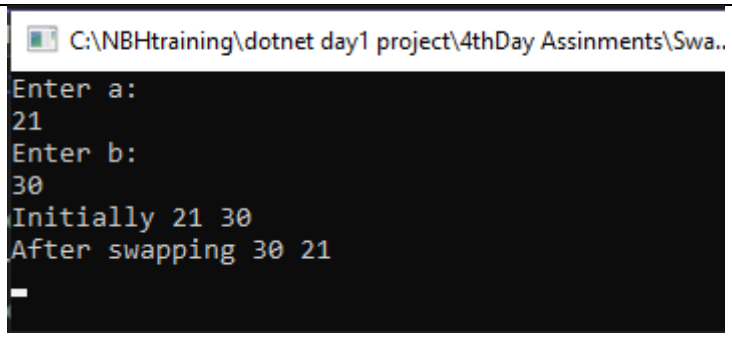
Program19:

WACP to SWAP two numbers without using third variable?

Code:

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

namespace Swaping_od_Numbers
{
    internal class Program
    {
        static void Main(string[] args)
        {
            int  a , b;
            Console.WriteLine("Enter a:");
            a = Convert.ToInt32(Console.ReadLine());
            Console.WriteLine("Enter b:");
            b = Convert.ToInt32(Console.ReadLine());
            Console.WriteLine("Initially {0} {1}",a,b);
            a= a+b;
            b = a-b;
            a = a-b;
            Console.WriteLine("After swapping {0} {1}", a,b);
            Console.ReadLine();
        }
    }
}
```

Output:



Program20:

WACP to Print Stars(*) in Pattern(Right Angled Pattern)?

Code:

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

namespace Printting_of_stars
{
    internal class Program
    {
        static void Main(string[] args)
        {
            int n, i, j;
            Console.WriteLine("Enter no of rows");
            n=Convert.ToInt32(Console.ReadLine());
            for(i=1; i<=n;i++)
            {
                for(j=1;j<=i;j++)
                {
                    Console.Write("*");
                }
                Console.WriteLine();
            }
            Console.ReadLine();
        }
    }
}
```

Output: