

20 c# Programs Assignment

By

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Program1:

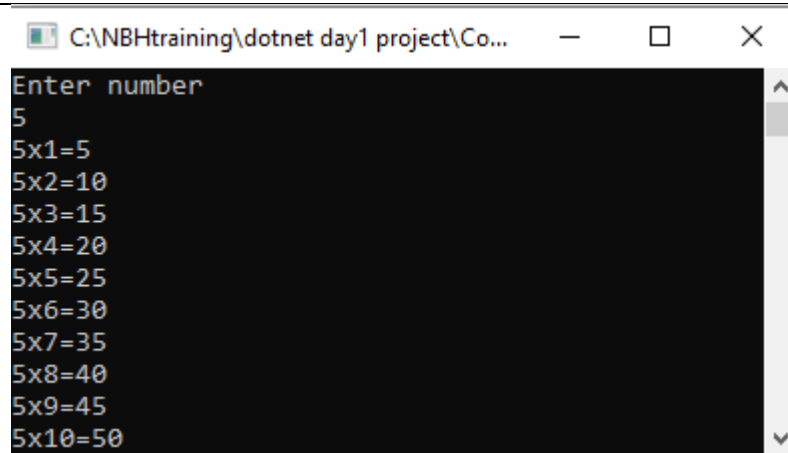
WACP to Multiplication Table of a given number?

```
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:



```
C:\NBHtraining\dotnet day1 project\Co...
Enter number
5
5x1=5
5x2=10
5x3=15
5x4=20
5x5=25
5x6=30
5x7=35
5x8=40
5x9=45
5x10=50
```

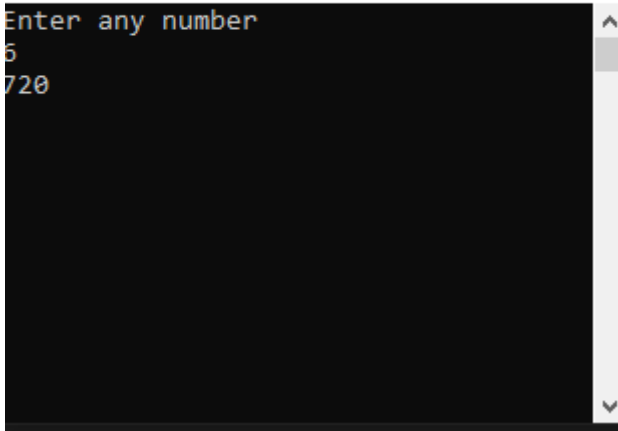
Programm2:

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:



The screenshot shows a console window titled "C:\NBHtraining\dotnet d...". The prompt "Enter any number" is displayed. The user has entered "6", and the program has outputted "720".

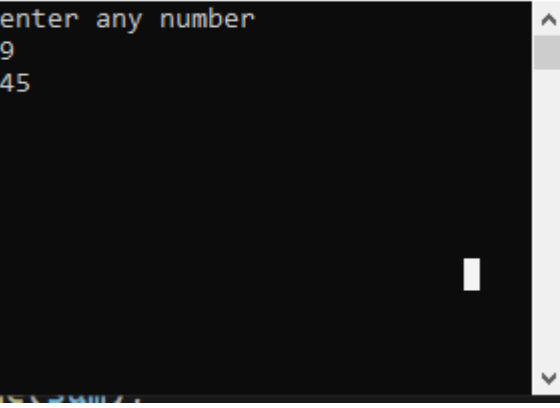
Program3:

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:



The screenshot shows a console window with a black background and white text. The title bar reads 'Select C:\NBHtraini...'. The prompt 'enter any number' is shown at the top. Below it, the user has entered '9'. The program has calculated the sum of natural numbers from 1 to 9, which is 45, and displayed it on the next line. A white cursor is visible at the end of the line containing '45'.

Program4:

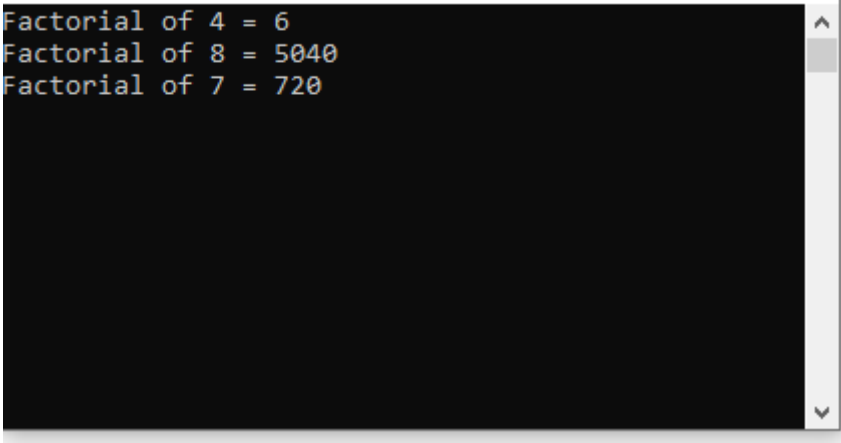
WACP to PRINT FACTORIAL using FUNCTION?

```
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:



The screenshot shows a console window with the following output:

```
Factorial of 4 = 6
Factorial of 8 = 5040
Factorial of 7 = 720
```

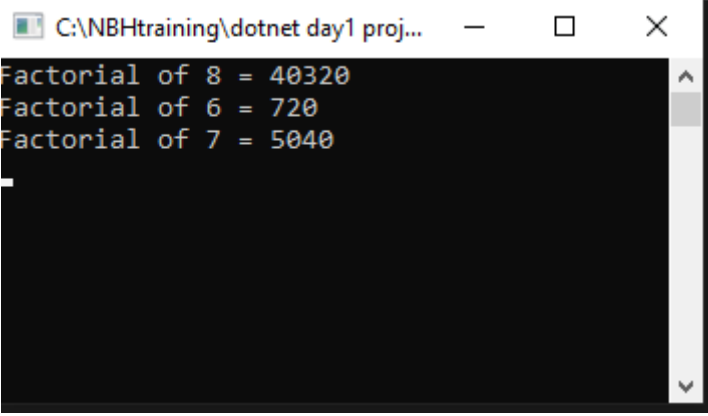
Program5:

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:



The screenshot shows a console window with the title bar "C:\NBHtraining\dotnet day1 proj...". The console output displays the factorial values for 8, 6, and 7. The text is as follows:

```
Factorial of 8 = 40320
Factorial of 6 = 720
Factorial of 7 = 5040
```

Program6:

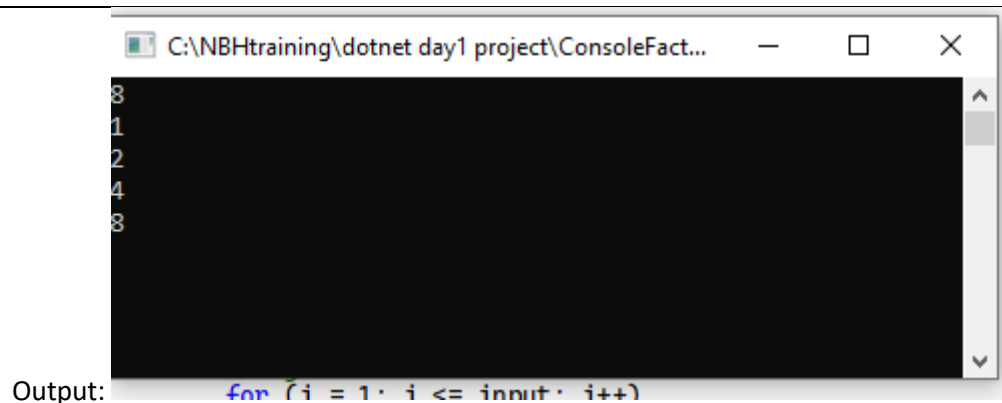
WACP to Print FACTORS of a given number?

```
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();
        }
    }
}
```



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());

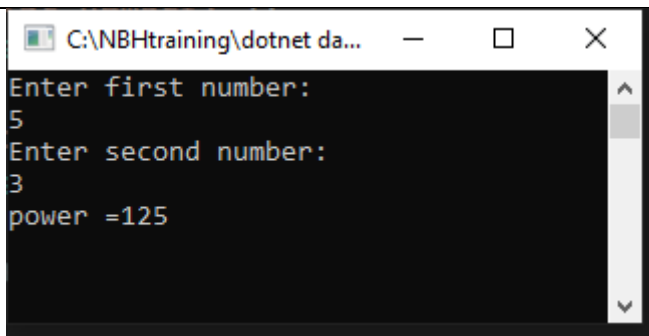
            Console.WriteLine("Enter second number:");
            sn = Convert.ToInt32(Console.ReadLine());

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

                p = p * fn;

            Console.WriteLine("power =" + p);
            Console.ReadLine();
        }
    }
}
```

Output:



```
C:\NBHtraining\dotnet da...
Enter first number:
5
Enter second number:
3
power =125
```


Program8:

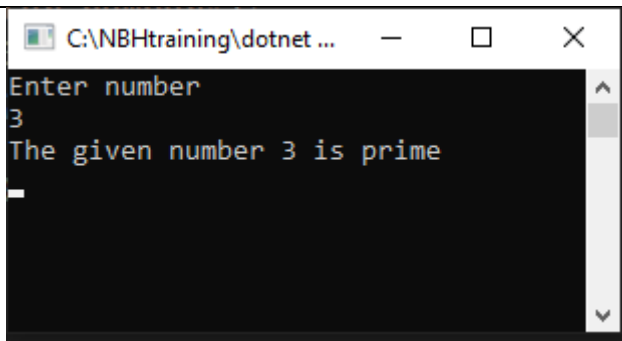
WACP to check given number is a PRIME NUMBER or NOT?

```
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:

A screenshot of a Windows console application window. The title bar shows the file path "C:\NBHtraining\dotnet ...". The console output is as follows: "Enter number" followed by the user input "3", and then the program output "The given number 3 is prime". The cursor is positioned on a new line below the output.

```
C:\NBHtraining\dotnet ...
Enter number
3
The given number 3 is prime
```

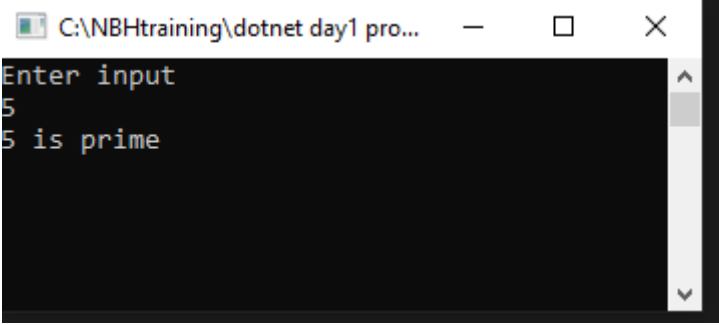
Program 9:

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:

A screenshot of a Windows console application window. The title bar shows the file path "C:\NBHtraining\dotnet day1 pro...". The console output shows the prompt "Enter input", followed by the user input "5", and then the output "5 is prime". The console has a black background with white text. The window has standard Windows controls (minimize, maximize, close) in the title bar.

Program 10

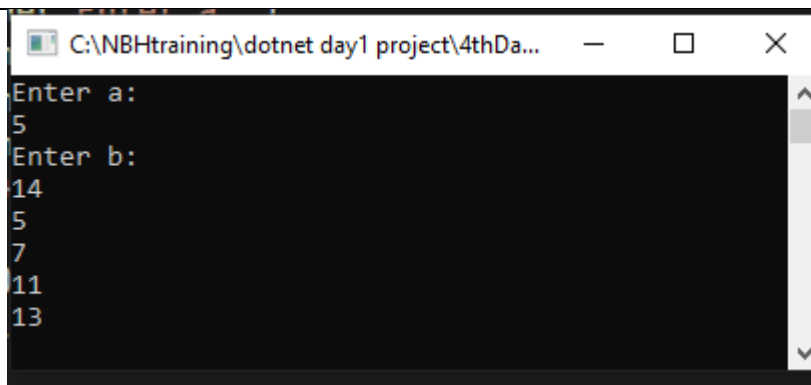
WACP to Print PRIME NUMBERS in RANGE?

```
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:

A screenshot of a Windows console application window. The title bar shows the file path "C:\NBHtraining\dotnet day1 project\4thDa...". The console output shows the program prompting for "Enter a:" and "Enter b:". The user has entered "5" for "a" and "14" for "b". The program then prints the prime numbers in the range [5, 14], which are 5, 7, 11, and 13, each on a new line. The console window has a dark background and a vertical scrollbar on the right side.

```
Enter a:
5
Enter b:
14
5
7
11
13
```

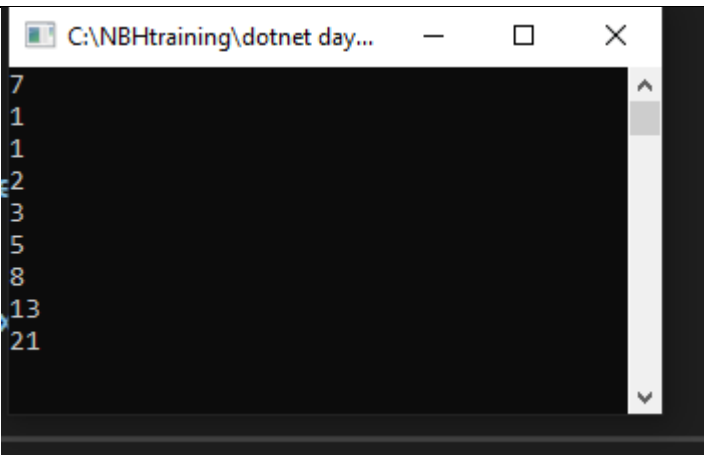
Program 11:

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:

A screenshot of a Windows console window titled "C:\NBHtraining\dotnet day...". The window has a black background with white text. The output of the program is displayed as a vertical list of numbers: 7, 1, 1, 2, 3, 5, 8, 13, and 21. Each number is preceded by a blue cursor icon. The window includes standard Windows window controls (minimize, maximize, close) in the title bar.

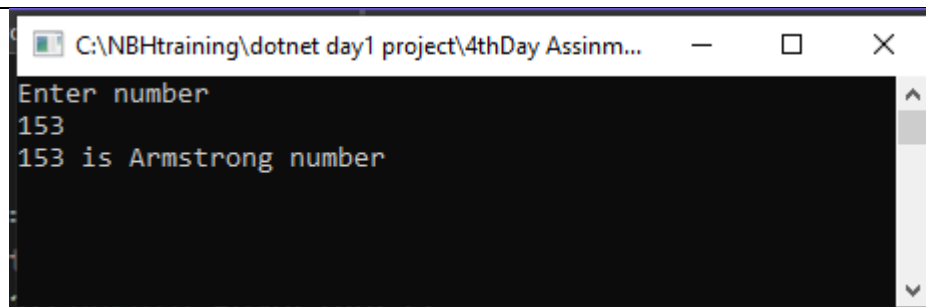
Program 12:

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:

A screenshot of a Windows console application window. The title bar shows the file path "C:\NBHtraining\dotnet day1 project\4thDay Assinm...". The console output is as follows: "Enter number" followed by a newline, then "153" followed by a newline, and finally "153 is Armstrong number". The cursor is positioned at the end of the last line. The window has standard Windows controls (minimize, maximize, close) in the title bar.

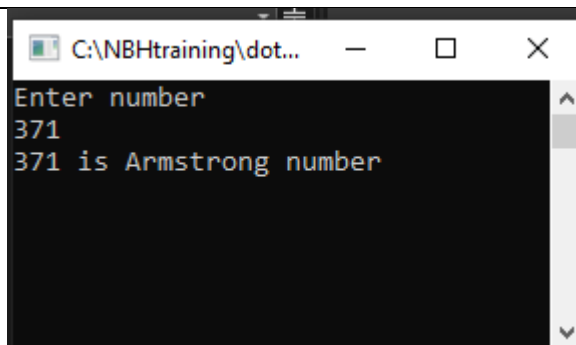
Program 13:

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 :

A screenshot of a Windows console application window. The title bar shows the file path "C:\NBHtraining\dot...". The console output is as follows: "Enter number" followed by the user input "371" on the next line, and then the program output "371 is Armstrong number" on the third line. The window has standard minimize, maximize, and close buttons.


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:



```
Enter a:
10
Enter b:
400
153
370
371
```

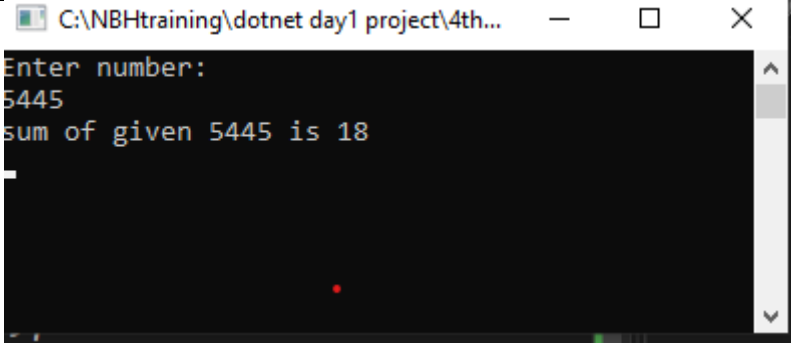
Program15:

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:



```
C:\NBHtraining\dotnet day1 project\4th...
Enter number:
5445
sum of given 5445 is 18
```

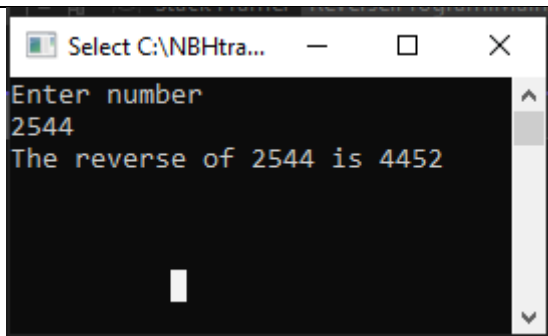

Program16:

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:

A screenshot of a Windows console application window. The title bar reads "Select C:\NBHtra...". The console output shows the prompt "Enter number", the user input "2544", and the program output "The reverse of 2544 is 4452". A white cursor is visible on a new line below the output.

```
Select C:\NBHtra...
Enter number
2544
The reverse of 2544 is 4452
```

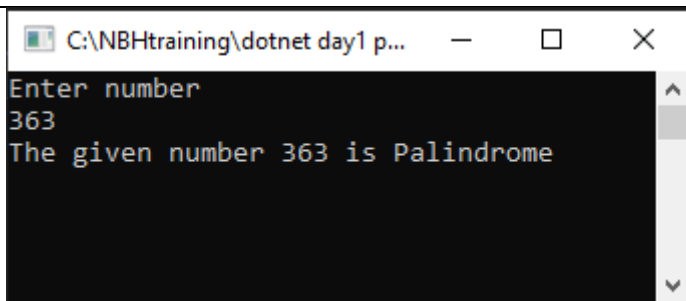
Program17:

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:

A screenshot of a Windows console window. The title bar shows the file path "C:\NBHtraining\dotnet day1 p...". The console has a black background with white text. It displays the prompt "Enter number", the user input "363", and the program output "The given number 363 is Palindrome".

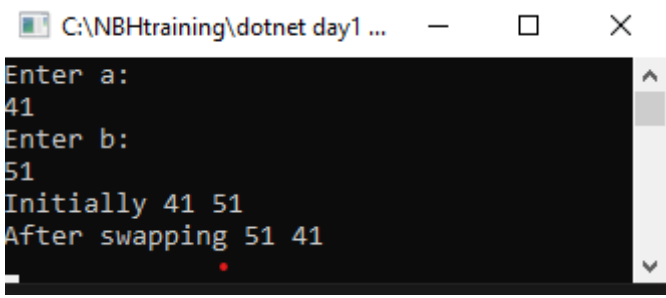
```
C:\NBHtraining\dotnet day1 p...
Enter number
363
The given number 363 is Palindrome
```

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();
        }
    }
}
```

C:\NBHtraining\dotnet day1 project\4thDay Assinments\Swa..

```
Enter a:
21
Enter b:
30
Initially 21 30
After swapping 30 21
-
```

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:



```
*
**
***
****
*****
*****
*****
*****
*****
*****
```