

**20 C# Programs By
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27/01/2022**

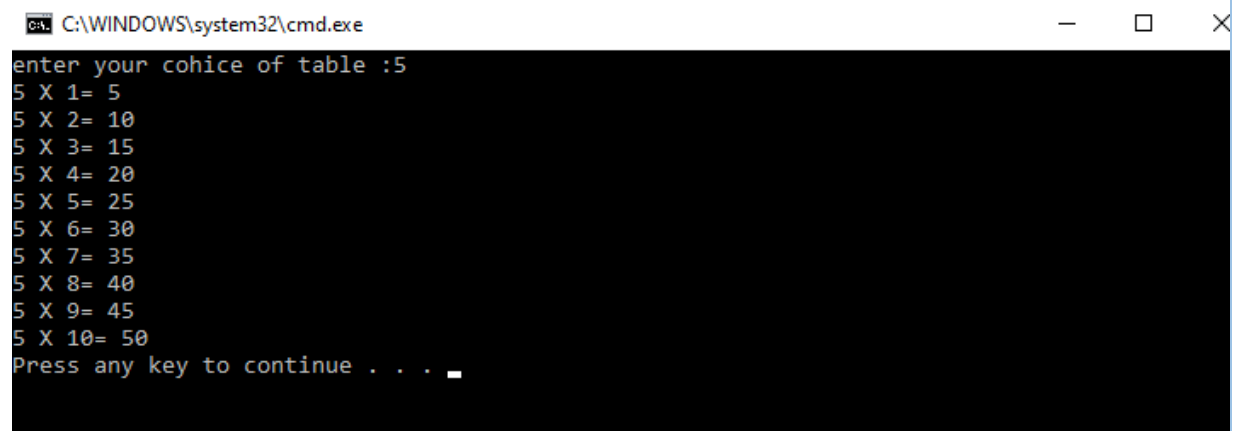
1. C# Program: To Print MULTIPLICATION TABLE of given number

Code:

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

namespace Day_4_Multiplication
{
    internal class Program
    {
        static void Main(string[] args)
        {
            /*****variable assigning*****/
            int input, mul = 1, op;
            /******input*****
            Console.WriteLine("enter your cohice of table");
            input = Convert.ToInt32(Console.ReadLine());
            /******logic*****
            for (mul = 1; mul < 11; mul++)
            {
                op = input * mul;
                Console.WriteLine(input+ " X " +mul+ "= "+op);
            }
        }
    }
}
```

Output:



```
C:\WINDOWS\system32\cmd.exe
enter your cohice of table :5
5 X 1= 5
5 X 2= 10
5 X 3= 15
5 X 4= 20
5 X 5= 25
5 X 6= 30
5 X 7= 35
5 X 8= 40
5 X 9= 45
5 X 10= 50
Press any key to continue . . .
```

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

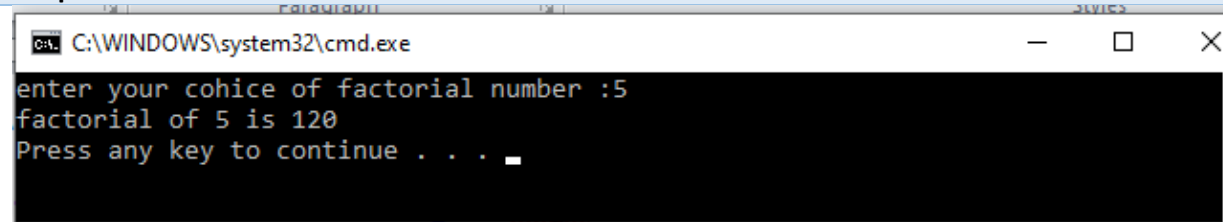
Code:

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

namespace day_4_factorial
{
    internal class Program
    {
        static void Main(string[] args)
        {
            //*****variable assigning*****
            int input, mul = 1;
            //*****input*****
            Console.WriteLine("enter your cohice of factorial number");
            input = Convert.ToInt32(Console.ReadLine());
            //*****logic*****
            for (int i = 1; i <= input; i++)
            {
                mul *= i;
            }

            Console.WriteLine("factorial of " + input + " is " + mul);
        }
    }
}
```

Output



The screenshot shows a Windows command prompt window titled "cmd: C:\WINDOWS\system32\cmd.exe". The prompt displays the following text: "enter your cohice of factorial number :5", "factorial of 5 is 120", and "Press any key to continue . . .". The user has entered the number 5, and the program has calculated the factorial of 5, which is 120.

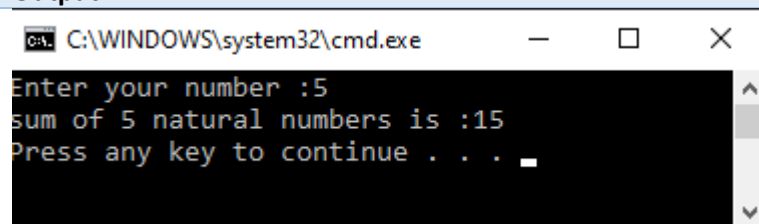
3. C# Program: Print SUM OF N Natural Numbers

Code:

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

namespace day_4_sum_of_natural_nums
{
    internal class Program
    {
        static void Main(string[] args)
        {
            //*****variable assignment*****
            int input, sum = 0;
            //*****input*****
            Console.WriteLine("Enter your number :");
            input = Convert.ToInt32(Console.ReadLine());
            //*****logic*****
            for(int i = 1; i <= input; i++)
            {
                sum += i;
            }
            Console.WriteLine("sum of "+ input+ " natural numbers is :"+sum);
        }
    }
}
```

Output



The screenshot shows a Windows command prompt window titled "C:\WINDOWS\system32\cmd.exe". The output of the program is displayed as follows:

```
Enter your number :5
sum of 5 natural numbers is :15
Press any key to continue . . .
```

4. C# Program: Print FACTORIAL using FUNCTION

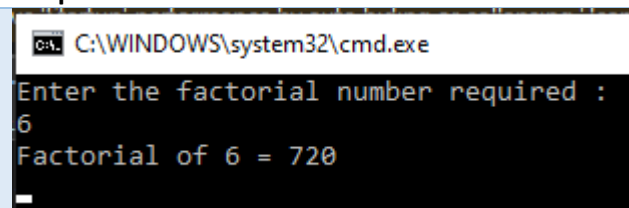
Code:

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

namespace Day_4_factorial_using_function
{
    internal class Program
    {
        public static int Fact(int ip)
        {
            int mul = 1;
            for (int i = 1; i <= ip; i++)
            {
                mul *= i;
            }
            return mul;
        }
        static void Main(string[] args)
        {
            Console.WriteLine("Enter the factorial number required :");
            int input = Convert.ToInt32(Console.ReadLine());

            Console.WriteLine("Factorial of " + input + " = " + Fact(input));
            Console.ReadLine();
        }
    }
}
```

Output:



The screenshot shows a Windows command prompt window with the title bar 'C:\WINDOWS\system32\cmd.exe'. The prompt displays the following text: 'Enter the factorial number required :', followed by the user input '6', and the program output 'Factorial of 6 = 720'. A cursor is visible on the line following the output.

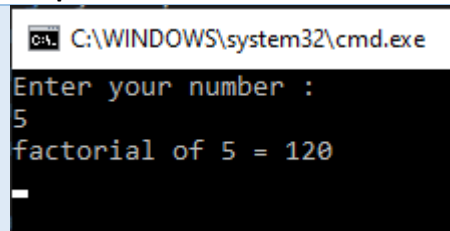
5. C# Program: Print FACTORIAL using RECURSION

Code:

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

namespace Day_4_recursion
{
    internal class Program
    {
        public static int Fact(int input)
        {
            if (input <= 1)
                return 1;
            else
                return input * Fact(input - 1);
        }
        static void Main(string[] args)
        {
            Console.WriteLine("Enter your number :");
            int num = Convert.ToInt32(Console.ReadLine());
            Console.WriteLine("factorial of {0} = {1}", num, Fact(num));
            Console.ReadLine();
        }
    }
}
```

Output:



```
C:\WINDOWS\system32\cmd.exe
Enter your number :
5
factorial of 5 = 120
```

6. C# Program: Print FACTORS of given number

Code:

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

namespace Day_4_factors
{
    internal class Program
    {
        static void Main(string[] args)
        {
            /*****variable assigning*****/
            int input, mul = 1;
            /******input*****
            Console.WriteLine("enter your choice of factorial number");
            input = Convert.ToInt32(Console.ReadLine());
            /******logic*****
            Console.WriteLine("factors of " + input + " are");

            for(int i = 1; i <= input; i++)
            {
                if (input%i == 0)
                {
                    Console.Write(i+",");
                }
            }
            Console.ReadLine();
        }
    }
}
```

Output:

CA: C:\WINDOWS\system32\cmd.exe

```
enter your cohice of factorial number  
20  
factors of 20 are  
1,2,4,5,10,20,
```

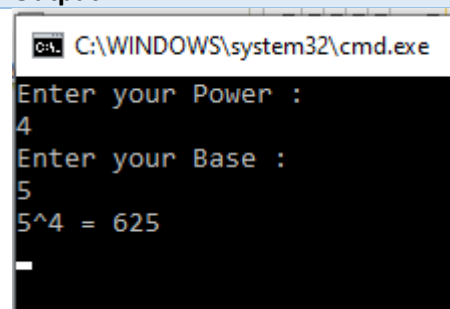

7. C# Program: Print POWER of Given numbers [a power b]

Code:

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

namespace Day_4_aPowerb
{
    internal class Program
    {
        public static int Power(int P, int B)
        {
            int mul = 1;
            for (int i = 1; i <= P; i++)
                mul *= B;
            return mul;
        }
        static void Main(string[] args)
        {
            Console.WriteLine("Enter your Power :");
            int Pwr = Convert.ToInt32(Console.ReadLine());
            Console.WriteLine("Enter your Base :");
            int Base = Convert.ToInt32(Console.ReadLine());
            int result = Power(Pwr, Base);
            Console.WriteLine("{1}^{0} = {2}", Pwr, Base, result);
            Console.ReadLine();
        }
    }
}
```

Output:



```
C:\WINDOWS\system32\cmd.exe
Enter your Power :
4
Enter your Base :
5
5^4 = 625
```

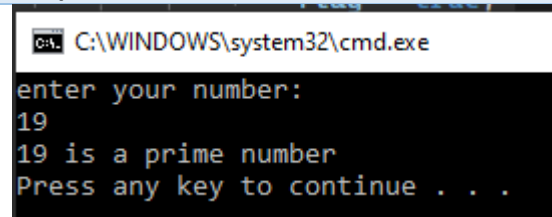
8. C# Program: PRIME NUMBER or Not

Code:

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

namespace Day_4_prime_check_without_fn
{
    internal class Program
    {
        static void Main(string[] args)
        {
            Console.WriteLine("enter your number:");
            int num = Convert.ToInt32(Console.ReadLine());
            bool flag = false;
            int i;
            for (i = 2; i < num; i++)
            {
                if (num % i == 0)
                {
                    flag = true;
                    break;
                }
            }
            if (flag == true)
                Console.WriteLine("{0} is composite cause it is divided by {1}", num, i);
            else
                Console.WriteLine("{0} is a prime number", num);
        }
    }
}
```

Output:



```
C:\WINDOWS\system32\cmd.exe
enter your number:
19
19 is a prime number
Press any key to continue . . .
```

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

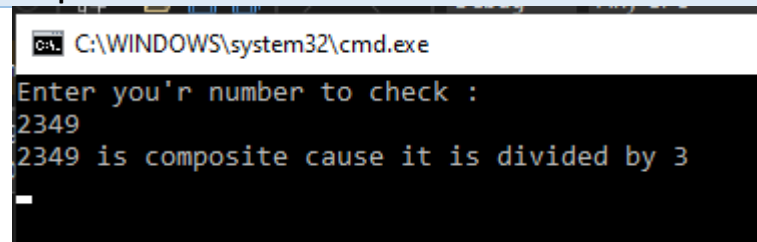
Code:

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

namespace Day_4_prime_Check
{
    internal class Program
    {
        public static int Prime_num(int num)
        {
            int i;
            bool flag = false;
            for (i = 2; i < num; i++)
            {
                if(num%i == 0)
                {
                    flag = true;
                    break;
                }
            }
            if (flag == true)
                Console.WriteLine("{0} is composite cause it is divided by {1}", num, i);
            else
                Console.WriteLine("{0} is a prime number");

            return 0;
        }
        static void Main(string[] args)
        {
            Console.WriteLine("Enter you'r number to check :");
            int input = Convert.ToInt32(Console.ReadLine());
            if (input > 1)
                Prime_num(input);
            else
                Console.WriteLine("enter your number above 1");
            Console.ReadLine();
        }
    }
}
```

Output:



```
C:\WINDOWS\system32\cmd.exe
Enter you'r number to check :
2349
2349 is composite cause it is divided by 3
```


10. C# Program: PRIME NUMBERS in RANGE

Code:

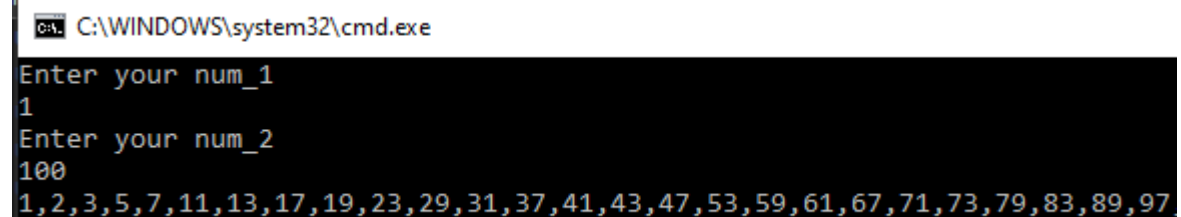
```
using System;

namespace Day_4_prime_range
{
    internal class Program
    {
        public static bool Prime_num(int num)
        {
            int i;
            bool flag = true;
            for (i = 2; i < num; i++)
            {
                if (num % i == 0)
                {
                    flag = false;
                    break;
                }
            }
            return flag ;
        }

        static void Main(string[] args)
        {
            int i;

            Console.WriteLine("Enter your num_1");
            int a = Convert.ToInt32(Console.ReadLine());
            Console.WriteLine("Enter your num_2");
            int b = Convert.ToInt32(Console.ReadLine());
            for(i = a; i <= b; i++)
            {
                if (Prime_num(i))
                {
                    Console.Write($"{i},");
                }
            }
            Console.ReadLine();
        }
    }
}
```

Output:



```
C:\WINDOWS\system32\cmd.exe
Enter your num_1
1
Enter your num_2
100
1,2,3,5,7,11,13,17,19,23,29,31,37,41,43,47,53,59,61,67,71,73,79,83,89,97.
```


11. C# Program: FIBONACCI SERIES

Code:

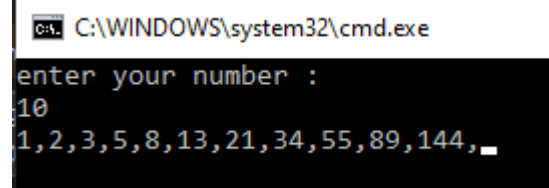
```
using System;
using System.Collections.Generic;
using System.Linq;
using System.Text;
using System.Threading.Tasks;

namespace Day_4_fibonacci_series
{
    internal class Program
    {
        static void Main(string[] args)
        {
            int n, a = 0, b = 1, c;

            Console.WriteLine("enter your number :");
            c = Convert.ToInt32(Console.ReadLine());

            for (int i = 0; i <= c; i++)
            {
                n = a + b;
                a = b;
                b = n;
                Console.Write(n + ", ");
            }
            Console.ReadLine();
        }
    }
}
```

Output:



```
C:\WINDOWS\system32\cmd.exe
enter your number :
10
1, 2, 3, 5, 8, 13, 21, 34, 55, 89, 144, _
```

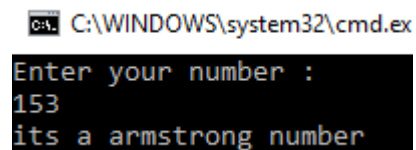
12. C# Program: ARMSTRONG NUMBER

Code:

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

namespace Day_4_Armstrong
{
    internal class Program
    {
        static void Main(string[] args)
        {
            int a, b, c, d = 0;
            Console.WriteLine("Enter your number :");
            a = Convert.ToInt32(Console.ReadLine());
            c = a;
            while(c > 0)
            {
                b = c % 10;
                c /= 10;
                d += b*b*b;
            }
            if (d == a)
                Console.WriteLine("its a armstrong number");
            else
                Console.WriteLine("its not a armstrong number");
            Console.ReadLine();
        }
    }
}
```

Output:



The screenshot shows a Windows command prompt window with the title bar "C:\WINDOWS\system32\cmd.exe". The prompt displays the following text:

```
Enter your number :
153
its a armstrong number
```


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

Code:

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

namespace Day_4_arm_check_fn
{
    internal class Program
    {
        public static bool arm(int a)
        {
            bool flag = false;
            int b, c = 0, d = a;

            while (a > 0)
            {
                b = a % 10;
                a /= 10;
                c += b * b * b;
            }
            if (c == d)
                flag = true;
            return flag;
        }

        static void Main(string[] args)
        {
            Console.Write("Enter your number :");
            int ip = Convert.ToInt32(Console.ReadLine());
            if (arm(ip) == true)
                Console.WriteLine($"{ip} its a armstrong number");
            else
                Console.WriteLine($"{ip} its not a armstrong number");
            Console.ReadLine();
        }
    }
}
```

Output:

C:\WINDOWS\system32\cmd.exe

```
Enter your number :153
153 its a armstrong number
```

14. C# Program: ARMSTRONG NUMBERS IN RANGE

Code:

```
using System;

namespace Day_4_arm_fn
{
    internal class Program
    {
        public static bool arm(int a)
        {
            bool flag = false;
            int b ,c=0,d=a;

            while(a > 0)
            {
                b = a%10;
                a /= 10;
                c += b*b*b;
            }
            if (c == d)
                flag = true;
            return flag;
        }
        static void Main(string[] args)
        {
            int i;
            Console.Write("enter your number1 :");
            int ip_1 = Convert.ToInt32(Console.ReadLine());
            Console.WriteLine();
            Console.Write("enter your number2 :");
            int ip_2 = Convert.ToInt32(Console.ReadLine());
            Console.WriteLine();
            Console.WriteLine($"armstrong number ranging from {ip_1} to {ip_2} :");
            for (i = ip_1; i <= ip_2;i++)
            {
                if (arm(i))
                {
                    Console.Write(i+",");
                }
            }

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

Output:

C:\WINDOWS\system32\cmd.exe

enter your number1 :1

enter your number2 :1000

armstrong number ranging from 1 to 1000 :1,153,370,371,407.

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

Code:

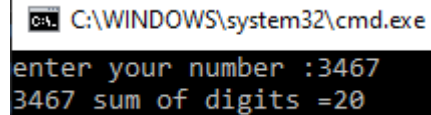
```
using System;
using System.Collections.Generic;
using System.Linq;
using System.Text;
using System.Threading.Tasks;

namespace Day_4_sum_of_digits
{
    internal class Program
    {
        static void Main(string[] args)
        {
            Console.WriteLine("enter your number :");
            int ip = Convert.ToInt32(Console.ReadLine());

            int a=0,c = ip;

            while(ip > 0)
            {
                a += ip % 10;
                ip /= 10;
            }
            Console.WriteLine($"{c} sum of digits ={a}");
            Console.ReadLine();
        }
    }
}
```

Output:



```
C:\WINDOWS\system32\cmd.exe
enter your number :3467
3467 sum of digits =20
```

16. C# Program: REVERSE OF A GIVEN NUMBER

Code:

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

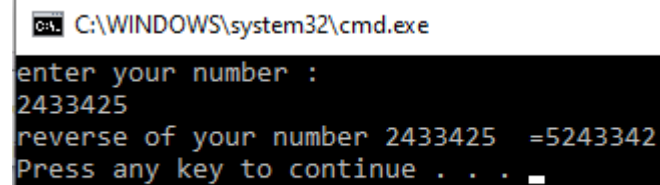
namespace Day_4_Reverse_of_a_num
{
    internal class Program
    {
        static void Main(string[] args)
        {
            Console.WriteLine("enter your number :");
            int ip = Convert.ToInt32(Console.ReadLine());

            int a = 0, c = ip, r=0;

            while (ip > 0)
            {
                a = ip % 10;
                ip /= 10;
                r = r*10+a;

            }
            Console.WriteLine($"reverse of your number {c} = {r}");
        }
    }
}
```

Output:



C:\WINDOWS\system32\cmd.exe

```
enter your number :
2433425
reverse of your number 2433425 =5243342
Press any key to continue . . .
```

17.C# Program: PALINDROME NUMBER

Code:

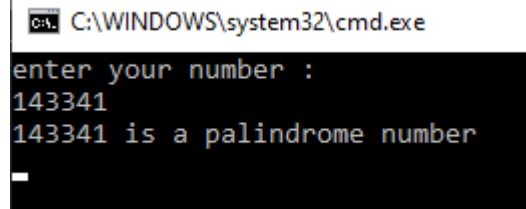
```
using System;
using System.Collections.Generic;
using System.Linq;
using System.Text;
using System.Threading.Tasks;

namespace Day_4_palindrome
{
    internal class Program
    {
        static void Main(string[] args)
        {
            Console.WriteLine("enter your number :");
            int ip = Convert.ToInt32(Console.ReadLine());

            int a = 0, c = ip, r = 0;

            while (ip > 0)
            {
                a = ip % 10;
                ip /= 10;
                r = r * 10 + a;
            }
            if(c==r)
                Console.WriteLine($"{c} is a palindrome number ");
            else
                Console.WriteLine($"{c} is not a palindrome number ");
            Console.ReadLine();
        }
    }
}
```

Output:



```
C:\WINDOWS\system32\cmd.exe
enter your number :
143341
143341 is a palindrome number
_
```

18.C# Program: SWAP NUMBERS using THIRD VARIABLE

Code:

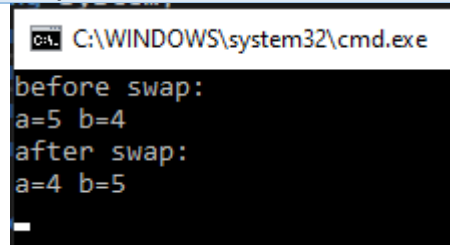
```
using System;
using System.Collections.Generic;
using System.Linq;
using System.Text;
using System.Threading.Tasks;

namespace Day_4_swap_num_using_3var
{
    internal class Program
    {
        static void Main(string[] args)
        {
            int a = 5, b = 4, r ;

            Console.WriteLine($"before swap:\na={a} b={b}");
            r= a;
            a= b;
            b= r;
            Console.WriteLine($"after swap:\na={a} b={b}");

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

Output:



```
C:\WINDOWS\system32\cmd.exe
before swap:
a=5 b=4
after swap:
a=4 b=5
_
```

19.C# Program: SWAP NUMBERS WITHOUT THIRD VARIABLE

Code:

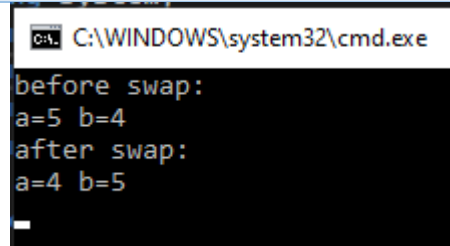
```
using System;
using System.Collections.Generic;
using System.Linq;
using System.Text;
using System.Threading.Tasks;

namespace Day_4_swap_num_without_var
{
    internal class Program
    {
        static void Main(string[] args)
        {
            int a = 5, b = 4;

            Console.WriteLine($"before swap:\na={a} b={b}");
            a=a+b;
            b=a-b;
            a=a-b;
            Console.WriteLine($"after swap:\na={a} b={b}");

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

Output:



```
C:\WINDOWS\system32\cmd.exe
before swap:
a=5 b=4
after swap:
a=4 b=5
_
```


19.C# Program: PATTERN

Code:

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

namespace Day_4_patters
{
    internal class Program
    {
        static void Main(string[] args)
        {
            int a = Convert.ToInt32(Console.ReadLine());
            for(int i=1;i<=a;i++)
            {
                for (int j = 1; j <= i; j++)
                {
                    Console.Write("*");
                }
                Console.WriteLine();
                Console.ReadLine();
            }
        }
    }
}
```

Output:

CA. C:\WINDOWS\system32\cmd.exe

enter choice num size for triangle :5

*

* *

* * *

* * * *

* * * * *

Press any key to continue . . .