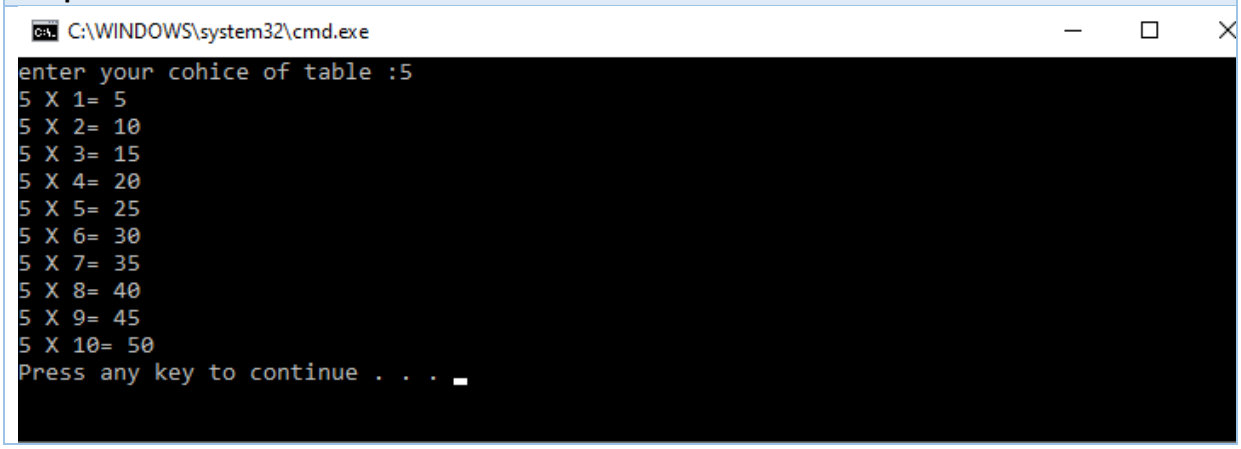
20 C# Programs By Nalli_Prudhvi. 27/01/2022

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:

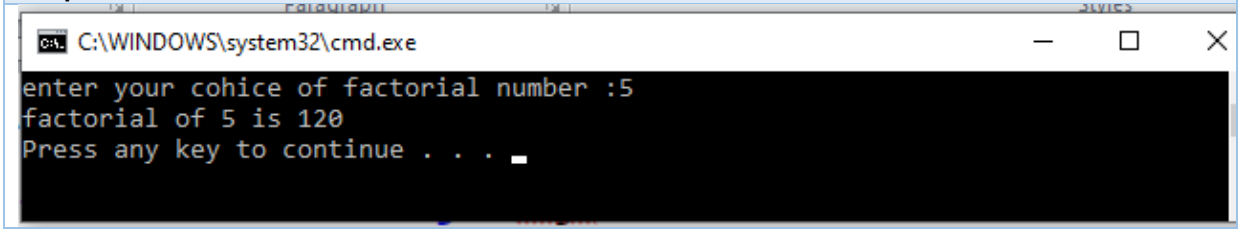


2. C# Program: Print FACTORIAL of a given number

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

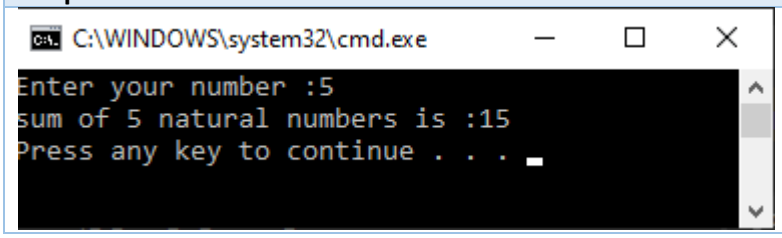


3. C# Program: Print SUM OF N Natural Numbers

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

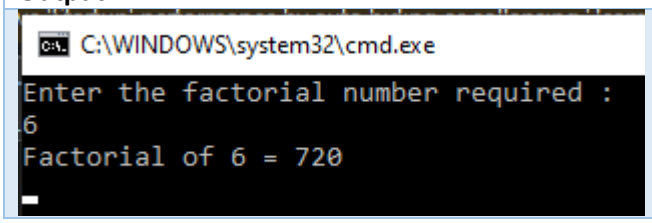


4. C# Program: Print FACTORIAL using FUNCTION

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:

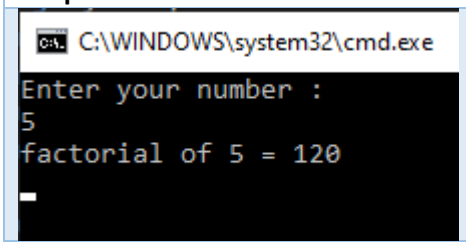


5. C# Program: Print FACTORIAL using RECURSION

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:

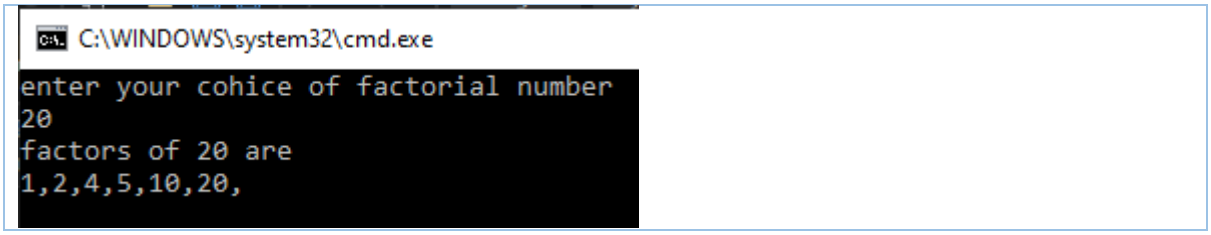


6. C# Program: Print FACTORS of given number

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 cohice 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:

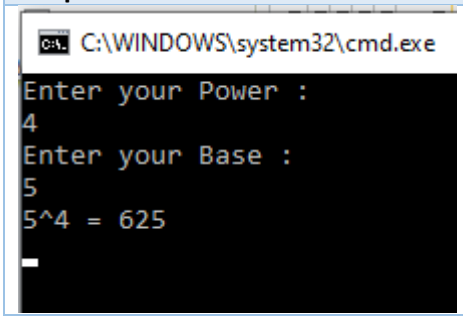

C:\WINDOWS\system32\cmd.exe
enter your cohice of factorial number
20
factors of 20 are
1,2,4,5,10,20,

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:

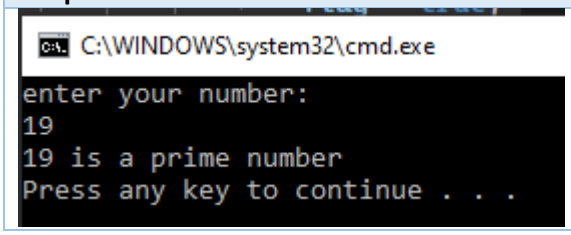


8. C# Program: PRIME NUMBER or Not

Code:

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

namespace Day_4_prime_check_whithout_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:

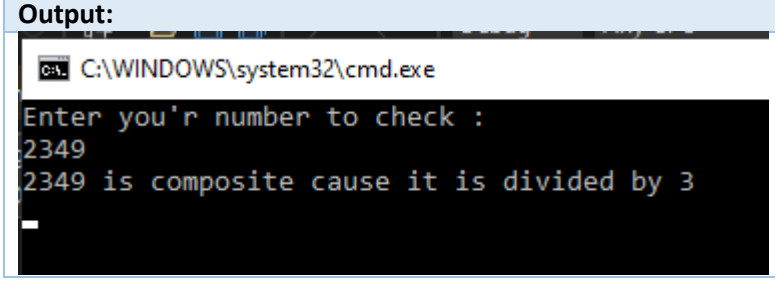


9. C# Program: PRIME NUMBER check [Using FUNCTION]

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:

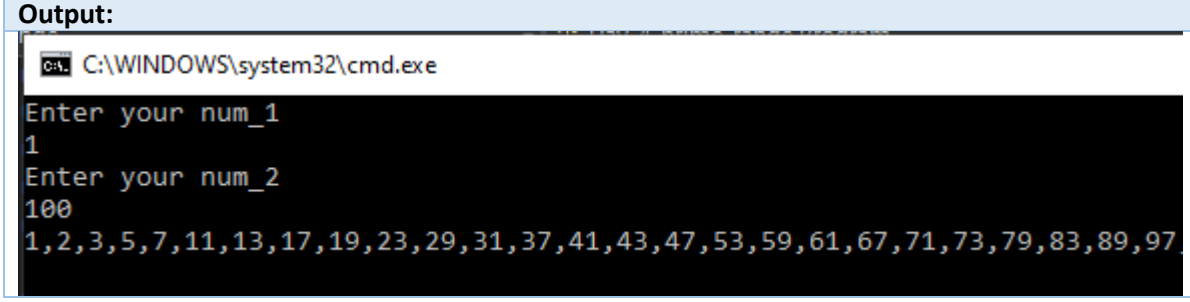


10. C# Program: PRIME NUMBERS in RANGE

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:

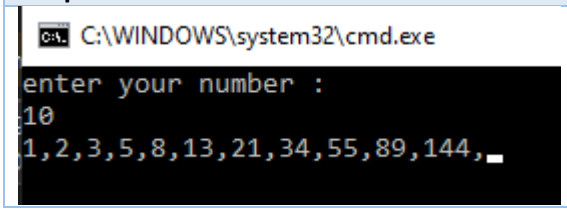


11. C# Program: FIBONACCI SERIES

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:

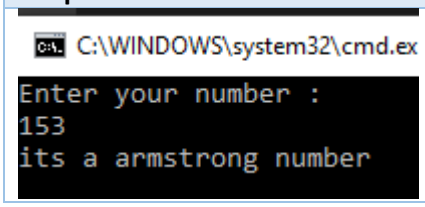


12. C# Program: ARMSTRONG NUMBER

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:

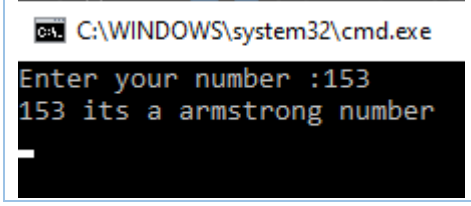


13. C# Program: ARMSTRONG NUMBER [using FUNCTION]

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:

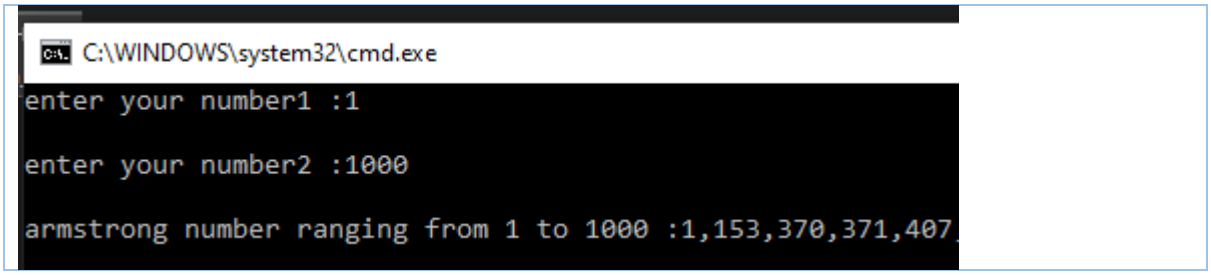


14. C# Program: ARMSTRONG NUMBERS IN RANGE

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.Write($"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:

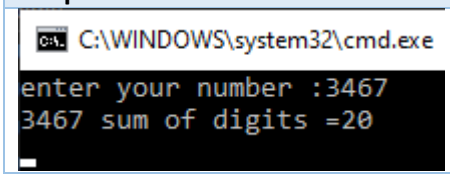

C:\WINDOWS\system32\cmd.exe
enter your number1 :1
enter your number2 :1000
armstrong number ranging from 1 to 1000 :1,153,370,371,407

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:

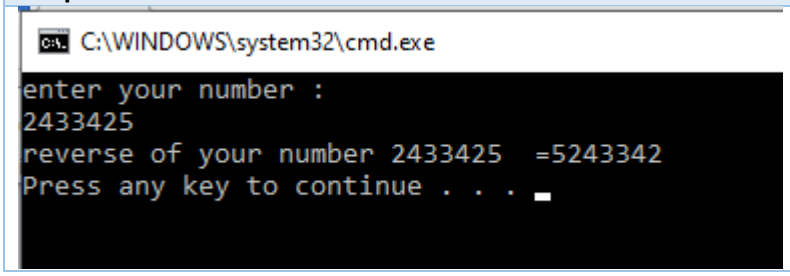


16. C# Program: REVERSE OF A GIVEN NUMBER

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:

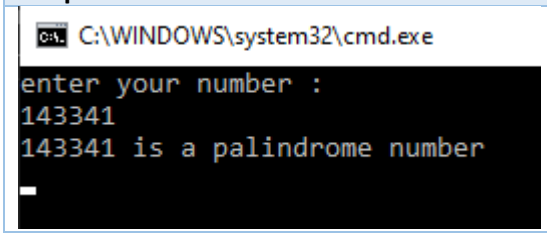


17.C# Program: PALINDROME NUMBER

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:

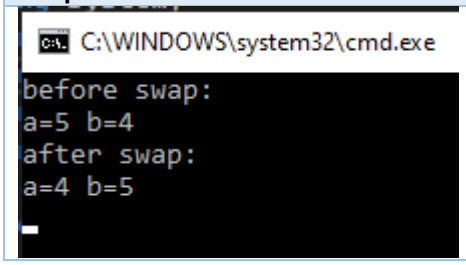


18.C# Program: SWAP NUMBERS using THIRD VARIABLE

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:

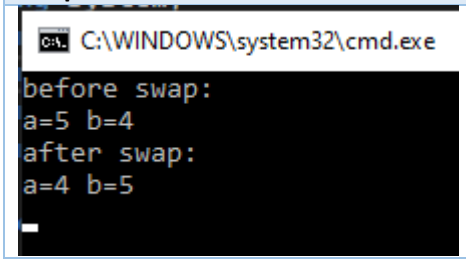


19.C# Program: SWAP NUMBERS WITHOUT THIRD VARIABLE

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:

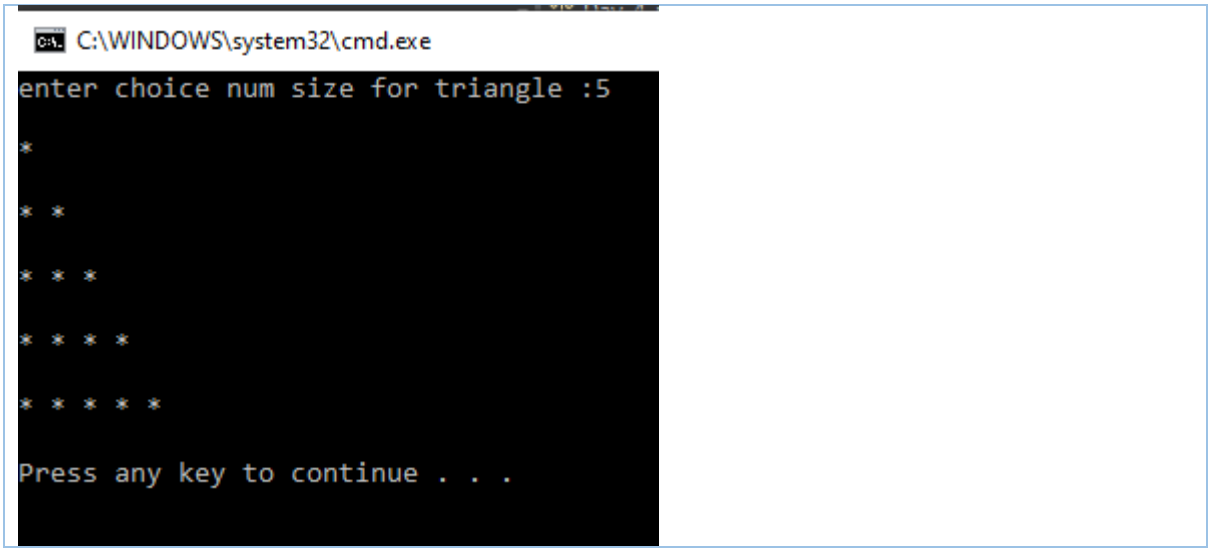


19.C# Program: PATTERN

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:


C:\WINDOWS\system32\cmd.exe
enter choice num size for triangle :5
*
* *
* * *
* * * *
* * * * *
Press any key to continue . . .