**WAP in C# to check whether the input number is even or odd.**

using System;

class EvenOdd

{

public static void Main()

{

Console.Write("Enter the number : ");

int n = Convert.ToInt32(Console.ReadLine());

if(n%2 == 0)

{

Console.WriteLine("The entered number " + n + " is Even Number.");

}

else

{

Console.WriteLine("The entered number " + n + " is Odd Number.");

}

}

}

**OUTPUT:**

E:/Sarthak>EvenOdd

Enter the number : 5

The entered number 5 is Odd Number.

E:/Sarthak>EvenOdd

Enter the number : 8

The entered number 8 is Even Number.

**WAP in C# to generate Fibonacci triangle of number.**

using System;

class FibonacciTriangle

{

public static void Main()

{

int a = 0, b = 1, i, c, n, j;

Console.Write("Enter the limit to print triangle:");

n = Convert.ToInt32(Console.ReadLine());

for(i = 1; i<= n; i++)

{

a = 0;

b = 1;

Console.Write(b + "\t");

for(j = 1; j <i; j++)

{

c = a + b;

Console.Write(c + "\t");

a = b;

b = c;

}

Console.Write("\n");

}

}

}

**OUTPUT:**

E:/Sarthak>FibonacciTriangle

Enter the limit to print triangle:5

1

1 1

1 1 2

1 1 2 3

1 1 2 3 5

**WAP in C# to define cube method for calculating cube.**

using System;

class Method

{

public int cube(int x)

{

return(x\*x\*x);

}

}

class CubeMethod

{

public static void Main()

{

Console.Write("Enter the number: ");

int n = Convert.ToInt32(Console.ReadLine());

Method m = new Method();

int y = m.cube(n);

Console.WriteLine("the cube of given number is " + y + ".");

}

}

**OUTPUT:**

E:/Sarthak>CubeMethod

Enter the number: 5

the cube of given number is 125.

**WAP to calculate area of rectangle by using classes and object.**

using System;

class Rectangle

{

public int length , width;

public void GetData(int x, int y)

{

length = x;

width = y;

}

public int RectArea()

{

int area = length \* width;

return(area);

}

}

class RectArea

{

public static void Main()

{

int area1, area2;

Console.Write("Enter the length of first Rectangle : ");

int length1 = Convert.ToInt32(Console.ReadLine());

Console.Write("Enter the width of first Rectangle : ");

int width1 = Convert.ToInt32(Console.ReadLine());

Console.Write("Enter the length of second Rectangle : ");

int length2 = Convert.ToInt32(Console.ReadLine());

Console.Write("Enter the width of second Rectangle : ");

int width2 = Convert.ToInt32(Console.ReadLine());

Rectangle rect1 = new Rectangle();

Rectangle rect2 = new Rectangle();

rect1.length = length1;

rect1.width = width1;

area1 = rect1.length \* rect1.width;

rect2.GetData(length2, width2);

area2 = rect2.RectArea();

Console.WriteLine("Area of first rectangle is: " + area1);

Console.WriteLine("Area of second rectangle is:" + area2);

}

}

**OUTPUT:**

E:/Aditi>RectArea

Enter the length of first Rectangle : 20

Enter the width of first Rectangle : 20

Enter the length of second Rectangle : 40

Enter the width of second Rectangle : 40

Area of first rectangle is: 400

Area of second rectangle is: 1600

**WAP in C# to demonstrate static method for calculate the square of input number.**

using System;

class StaticMethod

{

public static void Main()

{

Console.Write("Enter the number : ");

double n = Convert.ToDouble(Console.ReadLine());

double y = square(n);

Console.WriteLine("Square of given number is: " + y);

}

static double square(double x)

{

return(x\*x);

}

}

**OUTPUT:**

E:/Sarthak>StaticMethod

Enter the number : 5

Square of given number is: 25

**WAP in C# to print a multiplication table up to given number by using do-while loop.**

using System;

class DoWhile

{

public static void Main()

{

int row, column, y,number;

Console.Write("Enter the number upto which table should Print: ");

number = Convert.ToInt32(Console.ReadLine());

row = 1;

Console.WriteLine("Multiplication Table \n");

do

{

column = 1;

do

{

y = row \* column;

Console.Write(" " + y);

column = column + 1;

} while (column <= 10);

Console.WriteLine("\n");

row = row + 1;

} while (row <= number);

}

}

**OUTPUT:**

E:/Sarthak>DoWhile

Enter the number upto which table should Print: 5

Multiplication Table

1 2 3 4 5 6 7 8 9 10

2 4 6 8 10 12 14 16 18 20

3 6 9 12 15 18 21 24 27 30

4 8 12 16 20 24 28 32 36 40

5 10 15 20 25 30 35 40 45 50

**WAP in C# to produce the following Pattern.**

using System;

class DollerPattern

{

public static void Main()

{

int r;

Console.Write("Enter the limt to print Pattern: ");

r = Convert.ToInt32(Console.ReadLine());

for (int i = r; i >= 1; i--)

{

for(int j = i; j >= 1; j--)

{

Console.Write("$");

}

Console.WriteLine();

}

}

}

**OUTPUT:**

E:\sarthak>DollerPatern

Enter the limt to print Pattern: 5

$$$$$

$$$$

$$$

$$

$

**WAP in C# to generate the following pattern.**

using System;

class Pattern3

{

public static void Main()

{

int r;

Console.Write("Enter the number of rows: ");

r = Convert.ToInt32(Console.ReadLine());

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

{

for( int j = r ; j >=1; j--)

{

if( j <= i)

{

Console.Write(i+ " ");

}

else

{

Console.Write(" ");

}

}

Console.WriteLine();

}

}

}

**OUTPUT:**

E:\sarthak>Pattern3

Enter the number of rows: 5

1

2 2

3 3 3

4 4 4 4

5 5 5 5 5

**WAP by using For loop to print following pattern.**

using System;

class Pattern

{

public static void Main()

{

int r = 4, n = 1;

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

{

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

{

Console.Write(n);

n++;

}

Console.WriteLine();

}

}

}

OUTPUT:

E:\sarthak>CSC Pattern.cs

E:\sarthak>pattern

1

23

456

78910

**WAP a program to produce the following no pattern using for loop**

using System;

class Pattern10

{

public static void Main(String[] args)

{

int rows=5;

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

{

int num;

if(i%2==0)

{

num=0;

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

{

Console.Write(num);

num=(num==0)?1:0;

}

}

else

{

num=1;

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

{

Console.Write(num);

num=(num==0)?1:0;

}

}

Console.WriteLine();

}

}

}

D:\sarthak>Pattern10

1

01

101

0101

10101

**WAP in C# to cheack wether the input is LeapYear or not.**

using System;

class Leap

{

public static void Main(string[] args)

{

int chk\_year;

Console.Write("\n\n");

Console.Write("cheack whether a given year is leap year or not:\n");

Console.Write(".......................");

Console.Write("\n\n");

Console.Write("Input an year:");

chk\_year=Convert.ToInt32(Console.ReadLine());

if((chk\_year%400)==0)

Console.WriteLine("{0}is a leap year \n", chk\_year);

else if((chk\_year%100)==0)

Console.WriteLine("{0}is not a leap year \n", chk\_year);

else if((chk\_year%4)==0)

Console.WriteLine("{0}is a leap year \n", chk\_year);

else

Console.WriteLine("{0}is not a leap year \n", chk\_year);

}

}

**OUTPUT:**

D:\sarthak>Leap

cheack whether a given year is leap year or not:

.......................

Input an year:2020

2020 is a leap year

D:\sarthak>Leap

cheack whether a given year is leap year or not:

.......................

Input an year:2021

2021 is not a leap year

**WAP in c# to print star pattern using Jumping Method**

using System;

class GotoLable1

{

public static void Main()

{

Console.WriteLine("Enter the number of rows: ");

int row = Convert.ToInt32(Console.ReadLine());

for(int i=1;i<100;i++)

{

Console.WriteLine(" ");

if(i>row)

break;

for(int j=1;j<=100;j++)

{

Console.Write(" \* ");

if(j==i)

goto loop1;

}

loop1:continue;

}

Console.WriteLine("Termination by BREAK");

}

}

**OUTPUT:**

E:\sarthak>GotoLable1

Enter the number of rows:

5

\*

\* \*

\* \* \*

\* \* \* \*

\* \* \* \* \*

Termination by BREAK

**WAP to check whether an input character will be vowel or consonant.**

using System;

class Vowel

{

public static void Main()

{

char ch;

Console.Write("Enter any Alphabet:");

ch=Convert.ToChar(Console.ReadLine());

switch(ch)

{

case'a':

case'e':

case'i':

case'o':

case'u':

Console.Write("Input Character is Vowel:");

break;

default:Console.Write("Input character is Consonant.");

break;

}

}

}

**Output:**

D:\ sarthak >csc Vowel.cs

D:\ sarthak >Vowel

Enter any Alphabet:a

Input Character is Vowel:

D:\sarthak>

D:\ sarthak >Vowel

Enter any Alphabet:p

Input character is Consonant.

**WAP in C# to check whether the input number is prime or not.**

using System;

class PrimeNumber

{

public static void Main()

{

int n, i, m = 0, flag = 0;

Console.Write("Enter the no. to check Prime: ");

n = int.Parse(Console.ReadLine());

m = n/2;

for(i = 2; i < m; i++)

{

if(n%i==0)

{

Console.WriteLine("Number is not prime.");

flag=1;

break;

}

}

if(flag==0)

Console.WriteLine("Number is Prime.");

}

}

**OUTPUT:**

E:\sarthak>PrimeNumber

Enter the no. to check Prime: 55

Number is not prime.

E:\sarthak>PrimeNumber

Enter the no. to check Prime: 11

Number is prime.

**WAP in C# to impement method overriding mechanism .**

using System;

class super

{

protected int x;

public super(int x)

{

this.x=x;

}

public virtual void display()

{

Console.WriteLine("super x=" +x);

}

}

class sub:super

{

int y;

public sub(int x,int y):base(x)

{

this.y=y;

}

public override void display()

{

Console.WriteLine("super x=" +x);

Console.WriteLine("sub y=" +y);

}

}

class OverrideTest

{

public static void Main()

{

Console.WriteLine("Enter the Values of x and y: ");

int x=Convert.ToInt32(Console.ReadLine());

int y=Convert.ToInt32(Console.ReadLine());

sub s1=new sub(x,y);

s1.display();

}

}

**OUTPUT**

D:\ sarthak>OverrideTest

Enter the Values of x and y:

200

300

super x=200

sub y=300

**Write a program in c# demonstrate of try and catch mechanism for exception handling.**

using System;

class Exception1

{

public static void Main(string[] args)

{

Console.WriteLine("Enter Three Number:");

int a=Convert.ToInt32(Console.ReadLine());

int b=Convert.ToInt32(Console.ReadLine());

int c=Convert.ToInt32(Console.ReadLine());

int x,y;

try

{

x = a/(b-c);

Console.WriteLine("x="+x);

}

catch (Exception e)

{

Console.WriteLine(e);

}

y = a/(b+c);

Console.WriteLine("y ="+ y);

}

}

**Output:**

E:\sarthak>Exception1

Enter Three Number:

1

2

3

x=-1

y =0

E:\sarthak >Exception1

Enter Three Number:

4

2

2

System.DivideByZeroException: Attempted to divide by zero.

at Exception1.Main(String[] args)

y =1

**WAP in C# Demonstrate the Difference exceptions.**

using System;

namespace Hello

{

class Exception1

{

static void Main(string[] args)

{

int[] a= {5,10};

int b=5;

try

{

int x=a[2]/b-a[1];

}

catch (ArithmeticException e )

{

Console.WriteLine("Division by Zero. " + e);

}

catch (IndexOutOfRangeException e )

{

Console.WriteLine("Array Index Error. " + e);

}

catch (ArrayTypeMismatchException e )

{

Console.WriteLine("Wrong DataType. " + e);

}

int y=a[1]/a[0];

Console.WriteLine("y= "+y);

}

}

}

**OUTPUT:**

E:\sarthak>Exception1

Array Index Error. System.IndexOutOfRangeException: Index was outside the bounds

of the array.

at Hello.Exception1.Main(String[] args)

y= 2

**WAP in C# to display product details by using a structure.**

using System;

struct Student

{

public string name;

public int age;

public int roll;

}

class StudentTest

{

static void Main()

{

Student s;

s.name="sarthak";

s.age=22;

s.roll=2;

Console.WriteLine("Name is "+s.name);

Console.WriteLine("age is "+s.age);

Console.WriteLine("Roll is "+s.roll);

}

}

**Output:**

C:\Users\Admin\Desktop>StudentTest

Name is sarthak

age is 22

Roll is 2

**WAP in C# generate following pattern.**

A

B A B

C B A B C

D C B A B C D

E D C B A B C D E

using System;

class AlphaPattern

{

static public void Main()

{

int i, j, n;

Console.Write("Enter the no of lines:");

n = Convert.ToInt32(Console.ReadLine());

for (i = 1; i <= n; i++)

{

for (j = 1; j <= n - i; j++)

{

Console.Write(" ");

}

for (j = i; j > 0; j--)

{

Console.Write(" " + (char)(j + 64));

}

for (j = 2; j <= i; j++)

{

Console.Write(" " +(char)(j + 64));

}

Console.WriteLine();

}

}

}

**Output:**

C:\Users\Admin\Desktop>AlphaPattern

Enter the no of lines:5

A

B A B

C B A B C

D C B A B C D

E D C B A B C D E

**WAP in C# to demonstrate pass by reference.**

using System;

class PassByRef

{

static void swap(ref int x,ref int y)

{

int temp=x;

x=y;

y=temp;

}

public static void Main()

{

int m=100;

int n=200;

Console.WriteLine("Before swapping value=");

Console.WriteLine("m="+m);

Console.WriteLine("n="+n);

swap(ref m,ref n);

Console.WriteLine("After swapping value");

Console.WriteLine("m="+m);

Console.WriteLine("n="+n);

}

}

**OUTPUT:**

E:\shrutika1>PassByRef

Before swapping value=

m=100

n=200

After swapping value

m=200

n=100

**WAP in C# Demonstrate pass by value.**

using System;

class PassByValue

{

static void change (int m)

{

m=m+10;

Console.WriteLine("Value of m is : "+m);

}

public static void Main()

{

Console.WriteLine("enter the value of x : ");

int x =Convert.ToInt32(Console.ReadLine());

Console.WriteLine("value of X is : "+x);

change (x);

}

}

**OUTPUT:**E:\shrutika1>PassByValue

enter the value of x :

50

value of X is : 50

Value of m is : 60