**1. Write a Simple console Application Calculator with the help of Visual Studio .NET IDE which will perform following operations on two numbers**

**a. Addition.**

**b. Subtraction.**

**c. Multiplication.**

**d. Division**

using System;

class HelloWorld {

static void Main()

{

Console.WriteLine("Enter the action to be performed");

Console.WriteLine("1 for Addition");

Console.WriteLine("2 for Subtraction");

Console.WriteLine("3 for Multiplication");

Console.WriteLine("4 for Division \n");

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

Console.WriteLine("Enter 1st number");

int input1 = Convert.ToInt32(Console.ReadLine());

Console.WriteLine("Enter 2nd number");

int input2 = Convert.ToInt32(Console.ReadLine());

int result = 0;

switch (action) {

case 1: {

result = input1 + input2;

Console.WriteLine("addition of 2 numbers:" +result);

break;

}

case 2: {

result = input1 - input2;

Console.WriteLine("subtraction of 2 numbers:" +result);

break;

}

case 3: {

result = input1 \* input2;

Console.WriteLine("multiplication of 2 numbers:" +result);

break;

}

case 4: {

result = input1 / input2;

Console.WriteLine("division of 2 numbers:" +result);

break;

}

default:

Console.WriteLine("Wrong action!! try again");

break;

}

}

}

**2. Accept average marks of five students. Display the highest marks obtained.**

using System;

class average

{

static void Main()

{

Console.WriteLine("Please enter 5 students average marks:");

decimal a = decimal.Parse(Console.ReadLine());

decimal b = decimal.Parse(Console.ReadLine());

decimal c = decimal.Parse(Console.ReadLine());

decimal d = decimal.Parse(Console.ReadLine());

decimal e = decimal.Parse(Console.ReadLine());

if ((a >= b) && (a >= c) && (a >= d) && (a >= e))

{

Console.WriteLine("The highest marks is: {0}", a);

return;

}

if ((b >= a) && (b >= c) && (b >= d) && (b >= c))

{

Console.WriteLine("The highest marks is: {0}", b);

return;

}

if ((c >= a) && (c >= b) && (c >= d) && (c >= e))

{

Console.WriteLine("The highest marks is: {0}", c);

return;

}

if ((d >= a) && (d >= b) && (d >= c) && (d >= e))

{

Console.WriteLine("The highest marks is: {0}", d);

return;

}

if ((e >= a) && (e >= b) && (e >= c) && (e >= d))

{

Console.WriteLine("The highest marks is: {0}", e);

return;

}

}

}

**3. Write a static method to accept param array of integers. The method should find the sum of all the integers passed and display the result. Write a client program to call the method.**

using System;

class SumArray

{

public static void SumCal (int[] arr)

{

int sum = 0;

for (int i = 0; i < 5; i++)

{

sum = sum + arr[i];

}

Console.WriteLine ("Sum of array elements:" + sum);

}

public static void Main ()

{

int[] arr = new int[5];

Console.WriteLine ("Enter the array elements");

for (int i = 0; i < 5; i++)

{

arr[i] = int.Parse (Console.ReadLine ());

}

SumCal (arr);

}

}

**4. Write a method to swap two integers. The client code should call the method and print the swapped value.**

using System;

class HelloWorld {

public static void SwapNum(ref int x, ref int y)

{

int temp = x;

x = y;

y = temp;

}

public static void Main() {

int a,b;

Console.Write("\nenter 'a' value : ");

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

Console.Write("\nenter 'b' value : ");

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

SwapNum(ref a, ref b);

Console.WriteLine();

Console.WriteLine("Value of a and b after sawapping");

Console.WriteLine();

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

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

Console.ReadLine();

}

}

**5. Write a single method that calculates the area and circumference of the circle. The area and circumference should be displayed through the client code**

using System;

public class Program

{

static void Main(string[] args)

{

float r;

Console.Write("\nenter radius : ");

r = float.Parse(Console.ReadLine());

Program p = new Program();

(float a, float c)= p.AreaAndCircumference(r);

Console.WriteLine("Area = " + a + " Circumference = " + c);

}

public (float ,float) AreaAndCircumference(float radius)

{

float area= (float)(3.14 \* radius\*radius);

float circumference =(float) (2 \* 3.14 \* radius);

return (area, circumference);

}

}

**6. Create a structure Book which contains the following members:**

**bookId, title, price, bookType Type of the book should an enumerated data type with values as Magazine, Novel, ReferenceBook, Miscellaneous. Write a console based application to do the following tasks.**

**a. Accept the details of the book**

**b. Display the details of the book. The type of book should be displayed as a string e.g.:**

**Magazine**

using System;

struct book

{

public int id;

public string title;

public int price;

public string type;

};

public class BookClass

{

public static void Main(String[] args)

{

int n = 1;

book[] b = new book[n];

for(int i=0;i<n;i++)

{

Console.WriteLine("Enter the details of book:");

b[i].id = i+1;

Console.WriteLine("Enter the title:");

b[i].title = Console.ReadLine();

Console.WriteLine("Enter the price:");

b[i].price = int.Parse(Console.ReadLine());

Console.WriteLine("Enter the type of book(Magazine, Novel, ReferenceBook, Miscellaneous):");

b[i].type = Console.ReadLine();

}

for(int i=0;i<n;i++)

{

Console.WriteLine("\nThe details of book:");

Console.WriteLine("\n\nbookId:{0},\ntitle:{1},\nprice:{2},\nbooktype:{3}",b[i].id,b[i].title,b[i].price,b[i].type);

Console.ReadLine();

}

}

}