**Day 1 Assignments**

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

Accept input from user and display results on console. Make use of loops, switch case wherever required

Solution:

using System;

class Calculator {

  static void Main() {

   Console.WriteLine("Enter your choice");

            Console.WriteLine("1.Addition");

            Console.WriteLine("2. Subtraction");

            Console.WriteLine("3.Multiplication");

            Console.WriteLine("4.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;

            }

        }

  }

1. Accept average marks of five students. Display the highest marks obtained.

Solution:

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;

}

}

}

1. 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.

Solution:

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:" + 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);

}

}

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

Solution:

using System;

class Swapping

{

public static void Swap (int a,int b)

{

int temp = a;

a = b;

b= temp;

Console.WriteLine("Values after Swapping:\na="+a+"\nb="+b);

}

public static void Main ()

{

int a,b;

Console.WriteLine("Enter 2 values to swap:");

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

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

Console.WriteLine("Values before Swapping:\na="+a+"\nb="+b);

Swap(a,b);

}

}

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

Solution:

using System;

public class Circle

{

static void Main(string[] args){

Console.WriteLine("Enter the radius");

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

            Circle p = new Circle();

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

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

            Console.ReadKey();

        }

        public (float ,float) AreaAndCircumference(float radius)

        {

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

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

            return (area, circumference);

        }

    }

1. 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

Note: Use methods for accepting and displaying details.

Solution:

using System;

struct book

{

public int bookid;

public string title;

public int price;

public string booktype;

};

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].bookid = 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].booktype = 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].bookid,b[i].title,b[i].price,b[i].booktype);

Console.ReadLine();

}

}

}