## **Assignments to be done in this session**

1. Write a Simple console Application Calculator with the help of Visual Studio .NET IDE which will perform following operations on two numbers:
   1. Addition.
   2. Subtraction.
   3. Multiplication.
   4. Division

using System;

namespace CalculatorApp1

{

class Program

{

public static void Main()

{

int num1, num2, opt;

Console.Write("Enter the first Integer :");

num1 = Convert.ToInt32(Console.ReadLine());

Console.Write("Enter the second Integer :");

num2 = Convert.ToInt32(Console.ReadLine());

Console.Write("Select the Operation :\n");

Console.Write("1-Addition.\n2-Subtraction.\n3-Multiplication.\n4-Division.\n5-Exit.\n");

Console.Write("\nEnter your choice :");

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

switch (opt)

{

case 1:

Console.Write("The Addition of {0} and {1} is: {2}\n", num1, num2, num1 + num2);

break;

case 2:

Console.Write("The Subtraction of {0} and {1} is: {2}\n", num1, num2, num1 - num2);

break;

case 3:

Console.Write("The Multiplication of {0} and {1} is: {2}\n", num1, num2, num1 \* num2);

break;

case 4:

if (num2 == 0)

{

Console.Write("The second integer is zero. Divide by zero.\n");

}

else

{

Console.Write("The Division of {0} and {1} is : {2}\n", num1, num2, num1 / num2);

}

break;

case 5:

break;

default:

Console.Write("Wrong action!! Try Again\n");

break;

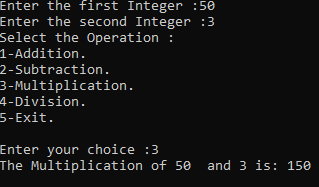
}

Console.ReadKey();

}

}

}



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

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

using System;

using System.Linq;

namespace StudentAvg

{

class Program2

{

public static void Main()

{

int[] Avgmarks = new int[5];

Console.WriteLine("Enter the Average marks of five students : ");

for (int i = 0; i < Avgmarks.Length; i++)

{

Avgmarks[i] = Convert.ToInt32(Console.ReadLine());

}

int HighestMarks = Avgmarks.Max();

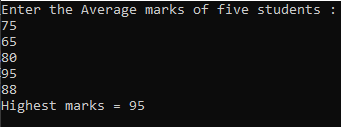
Console.WriteLine("Highest marks = {0}", HighestMarks);

Console.ReadKey();

}

}

}



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.

using System;

namespace ConsoleApp1

{

public class Program3

{

public static int Sum(int[] arr1)

{

int total = 0;

for (int i = 0; i < arr1.Length; i++)

total += arr1[i];

return total;

}

public static void Main()

{

int[] arr1 = new int[5];

Console.Write("Input 5 elements in the array :\n");

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

{

arr1[j] = Convert.ToInt32(Console.ReadLine());

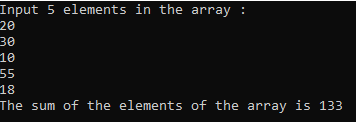
}

Console.WriteLine("The sum of the elements of the array is {0}", Sum(arr1));

}

}

}



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

using System;

namespace ConsoleApp1

{

class Program4

{

public static void swapping(ref int a, ref int b)

{

int c;

c = a;

a = b;

b = c;

}

public static void Main()

{

int n1, n2;

Console.Write("Enter First Integer value: ");

n1 = Convert.ToInt32(Console.ReadLine());

Console.Write("Enter Second Integer value: ");

n2 = Convert.ToInt32(Console.ReadLine());

swapping(ref n1, ref n2);

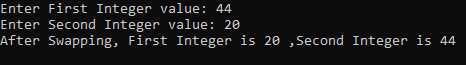
Console.WriteLine("After Swapping, First Integer is {0} ,Second Integer is {1}", n1, n2);

Console.ReadKey();

}

}

}



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

using System;

namespace ConsoleApp1

{

public class Program5

{

public static void Main(String[] args)

{

double r, Area, Circum;

const double PI = 3.14;

Console.WriteLine("Enter Radius of Circle: ");

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

Area = PI \* r \* r;

Console.WriteLine("The Area of Circle is {0}", Area);

Circum = 2 \* PI \* r;

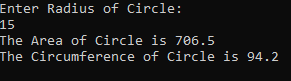
Console.WriteLine("The Circumference of Circle is {0}", Circum);

Console.ReadKey();

}

}

}



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.

* 1. Accept the details of the book
  2. 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.

using System;

namespace ConsoleApp1

{

public struct Book

{

public int bookId;

public string title;

public int price;

public enum BookType

{

Magazine = 1,

Novel = 2,

ReferenceBook = 3,

Miscellaneous = 4

}

public static void Details()

{

Console.WriteLine("Enter no. of books : ");

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

Book[] books = new Book[num];

for(int i = 0; i < books.Length; i++)

{

Console.WriteLine("------ Accepting Book Details ------");

Console.WriteLine("Enter the Book Id: ");

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

Console.WriteLine("Enter the Book Title: ");

string title = Console.ReadLine();

Console.WriteLine("Enter Book Price: ");

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

Console.WriteLine("Enter the Book Type: ");

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

Console.WriteLine("------ Displaying Book Details ------");

Console.WriteLine("The Book ID : {0} ", bookId);

Console.WriteLine("The Book Title : {0} ", title);

Console.WriteLine("The Book Price : {0} ", price);

Console.WriteLine("The Book Type : {0} ", (BookType)code);

}

}

}

class Program6

{

static void Main(String[] args)

{

Book.Details();

Console.ReadKey();

}

}

}

