## 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

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.
2. 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.
3. Write a method to swap two integers. The client code should call the method and print the swapped value.
4. Write a single method that calculates the area and circumference of the circle. The area and circumference should be displayed through the client code
5. 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.

Code :

1.)

using System;

using System.Collections.Generic;

using System.Linq;

using System.Text;

using System.Threading.Tasks;

namespace CalculatorApp

{

class Program

{

static void Main(string[] args)

{

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

Console.WriteLine("Press 1 for Addition");

Console.WriteLine("Press 2 for Subtraction");

Console.WriteLine("Press 3 for Multiplication");

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

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

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

int input\_1 = Convert.ToInt32(Console.ReadLine());

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

int input\_2 = Convert.ToInt32(Console.ReadLine());

int result = 0;

switch (action)

{

case 1:

{

result = Addition(input\_1, input\_2);

break;

}

case 2:

{

result = Subtraction(input\_1, input\_2);

break;

}

case 3:

{

result = Multiplication(input\_1, input\_2);

break;

}

case 4:

{

result = Division(input\_1, input\_2);

break;

}

default:

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

break;

}

Console.WriteLine("The result is {0}", result);

Console.ReadKey();

}

//Addition

public static int Addition(int input\_1, int input\_2)

{

int result = input\_1 + input\_2;

return result;

}

//Substraction

public static int Subtraction(int input\_1, int input\_2)

{

int result = input\_1 + input\_2;

return result;

}

//Multiplication

public static int Multiplication(int input\_1, int input\_2)

{

int result = input\_1 + input\_2;

return result;

}

//Division

public static int Division(int input\_1, int input\_2)

{

int result = input\_1 + input\_2;

return result;

}

}

}

2.)

using System;

classHighestMark

{

publicstaticvoid Main(string[] args)

{

int marks1, marks2, marks3, marks4, marks5;

Console.WriteLine("Enter marks of first student : ");

marks1 = Convert.ToInt32(Console.ReadLine());

Console.WriteLine("Enter marks of second student : ");

marks2 = Convert.ToInt32(Console.ReadLine());

Console.WriteLine("Enter marks of third student ");

marks3 = Convert.ToInt32(Console.ReadLine());

Console.WriteLine("Enter marks of fourth student ");

marks4 = Convert.ToInt32(Console.ReadLine());

Console.WriteLine("Enter marks of fifth student ");

marks5 = Convert.ToInt32(Console.ReadLine());

Console.WriteLine("");

if (marks1 > marks2 && marks1 > marks3 && marks1 > marks4 && marks1 > marks5)

{

Console.WriteLine("Student-1 Scored Highest Mark");

}

if (marks2 > marks1 && marks2 > marks3 && marks2 > marks4 && marks2 > marks5)

{

Console.WriteLine("Student-2 Scored Highest Mark");

}

if (marks3 > marks1 && marks3 > marks2 && marks3 > marks4 && marks3 > marks5)

{

Console.WriteLine("Student-3 Scored Highest Mark");

}

if (marks4 > marks1 && marks4 > marks2 && marks4 > marks3 && marks4 > marks5)

{

Console.WriteLine("Student-4 Scored Highest Mark");

}

if (marks5 > marks1 && marks5 > marks2 && marks5 > marks3 && marks4 > marks5)

{

Console.WriteLine("Student-5 Scored Highest Mark");

}

if (marks1 == marks2 && marks2 == marks3 && marks3 == marks4 && marks4 == marks5 && marks5 == marks1)

{

Console.WriteLine("All student have equal marks");

}

Console.ReadLine();

}

}

3.)

using System;

publicclassSumArray

{

staticvoidSumArr()

{

int[] arr1 = newint[100];

int i, num, sum = 0;

Console.Write("Sum of all elements of array \n");

Console.Write("Enter the number of elements to be stored in the array : ");

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

Console.Write("Enter {0} elements in the array \n\n", num);

for (i = 0; i <num; i++)

{

Console.Write("Enter element - {0} : ", i);

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

sum += arr1[i];

}

Console.Write("Sum of all elements stored in the array is : {0}\n\n", sum);

}

publicstaticvoid Main()

{

SumArr();

}

}

4.)

using System;

publicclassExercise5

{

publicstaticvoid Main(string[] args)

{

int num1, num2, temp;

Console.Write("\nInput the First Number : ");

num1 = int.Parse(Console.ReadLine());

Console.Write("\nInput the Second Number : ");

num2 = int.Parse(Console.ReadLine());

temp = num1;

num1 = num2;

num2 = temp;

Console.Write("\nAfter Swapping : ");

Console.Write("\nFirst Number : " + num1);

Console.Write("\nSecond Number : " + num2);

Console.Read();

}

}

5.)

using System;

namespaceAssignmentCsharp

{

publicclassCircle

{

publicstaticvoid Main(string[] args)

{

double rad, Area, Circumference;

constdouble PI = 3.14;

Console.WriteLine("Program to calculate the area and circumference of a circle");

Console.Write("\nEnter the radius of circle ");

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

Area = PI \* rad \* rad;

Circumference = 2 \* PI \* rad;

Console.WriteLine("\nThe area of a circle is {0} ", Area);

Console.WriteLine("\nThe circumference of a circle is {0}", Circumference);

}

}

}

6.)

using System;

namespaceAssignmentBook

{

publicenumBookType

{

Magazine,

Novel,

ReferenceBook,

Miscellaneous

}

structBook

{

publicstringbookId;

publicstring title;

publicstringbooktype;

publicstring price;

}

publicclassBookDetails

{

publicstaticvoid Main()

{

intactionbook = 0;

intno\_Of\_book = 1000;

Book[] books = new Book[no\_Of\_book];

int i, j, num, number, k = 0;

Console.Write("Enter the number of book to be stored : ");

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

Console.Write("Enter {0} elements in the array \n\n", num);

for (j = 0; j <num; j++)

{

Console.WriteLine("Information of book {0} :", k);

Console.Write("Enter Id of the book : ");

books[j].bookId = Console.ReadLine();

Console.Write("Enter Title of the book : ");

books[j].title = Console.ReadLine();

Console.WriteLine("\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*");

Console.WriteLine("Select Type of the book : ");

foreach (int b inEnum.GetValues(typeof(BookType)))

Console.WriteLine((BookType)b);

Console.Write("Enter Book Type : ");

//actionbook = Convert.ToInt32(Console.ReadLine());

// Console.WriteLine((BookType)actionbook);

books[j].booktype = Console.ReadLine();

Console.WriteLine("\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*");

Console.Write("Enter the Price of the book : ");

books[j].price = Console.ReadLine();

k++;

Console.WriteLine();

}

for (i = 0; i <num; i++)

{

Console.WriteLine("{0}: BookId = {1}, Title = {2} ,BookType = {3}, Price = {4} ", i + 1, books[i].bookId, books[i].title, books[i].booktype, books[i].price);

Console.WriteLine();

}

}

}

}