## **Assignment No. 1**

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.

**Input:**

using System;

namespace Assignment1Calculator

{

class Calculator

{

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

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

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

int result = 0;

switch (action)

{

case 1:

{

result = Addition(num1, num2);

break;

}

case 2:

{

result = Subtraction(num1, num2);

break;

}

case 3:

{

result = Multiplication(num1, num2);

break;

}

case 4:

{

result = Division(num1, num2);

break;

}

default:

Console.WriteLine("Please enter proper number between 1 to 4");

break;

}

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

}

public static int Addition(int num1, int num2)

{

int result = num1 + num2;

return result;

}

public static int Subtraction(int num1, int num2)

{

int result = num1 - num2;

return result;

}

public static int Multiplication(int num1, int num2)

{

int result = num1 \* num2;

return result;

}

public static int Division(int num1, int num2)

{

int result = num1 / num2;

return result;

}

}

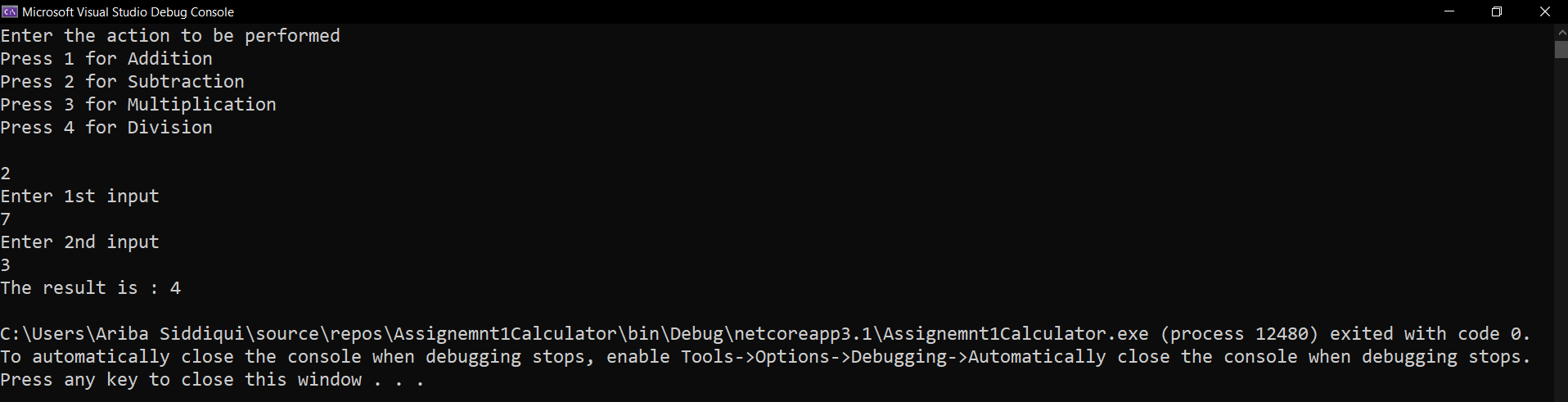
}

**Output**

**Addition:**



**Subtraction:**



**Multiplication:**



**Division:**



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

**INPUT:**

using System;

class CalcHighestMark

{

public static void Main(string[] args)

{

int marks1, marks2, marks3,marks4,marks5;

Console.WriteLine("Enter Student-1 Mark : ");

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

Console.WriteLine("Enter Student-2 Mark : ");

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

Console.WriteLine("Enter Student-3 Mark : ");

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

Console.WriteLine("Enter Student-4 Mark : ");

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

Console.WriteLine("Enter Student-5 Mark : ");

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)

{

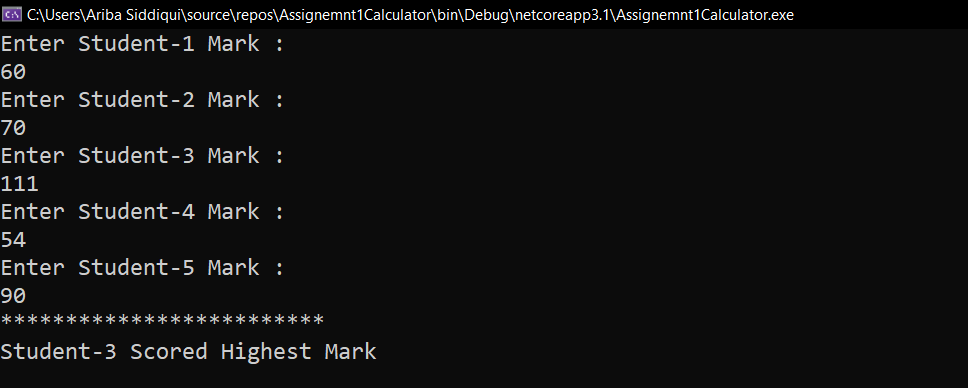
Console.WriteLine("All student have equal marks");

}

Console.ReadLine();

}

}



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.

**INPUT:**

using System;

public class SumArray

{

static void SumArr()

{

int[] arr = new int[100];

int i, n, sum = 0;

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

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

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

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

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

{

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

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

sum += arr[i];

}

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

}

public static void Main()

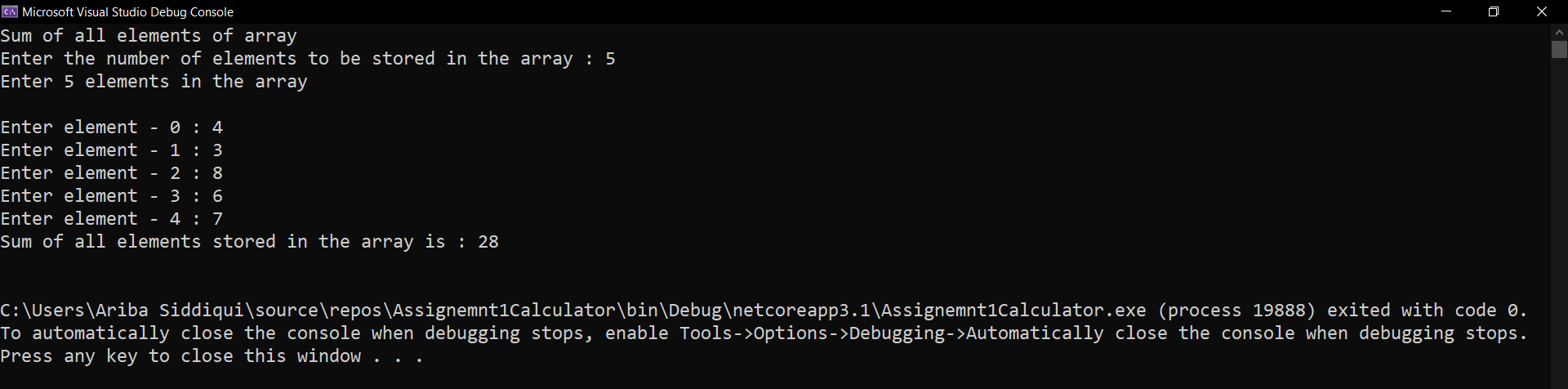
{

SumArr();

}

}

**OUTPUT:**



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

**INPUT:**

using System;

public class SwapInt

{

static void SwapNum()

{

int number1, number2, temp;

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

number1 = int.Parse(Console.ReadLine());

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

number2 = int.Parse(Console.ReadLine());

temp = number1;

number1 = number2;

number2 = temp;

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

Console.Write("\nFirst Number : " + number1);

Console.Write("\nSecond Number : " + number2);

}

public static void Main(string[] args)

{

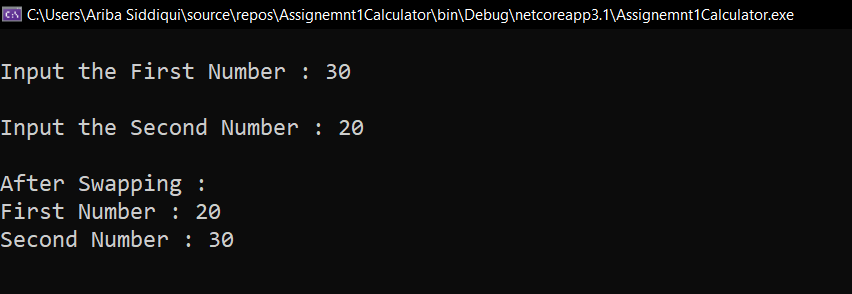
SwapNum();

Console.Read();

}

}

**OUTPUT:**



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

**INPUT:**

using System;

namespace CircleAreaCircum

{

public class Circle

{

static void CircleCalc()

{

double r, Area, Circumference;

const double PI = 3.14;

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

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

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

Area = PI \* r \* r;

Circumference = 2 \* PI \* r;

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

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

}

public static void Main(string[] args)

{

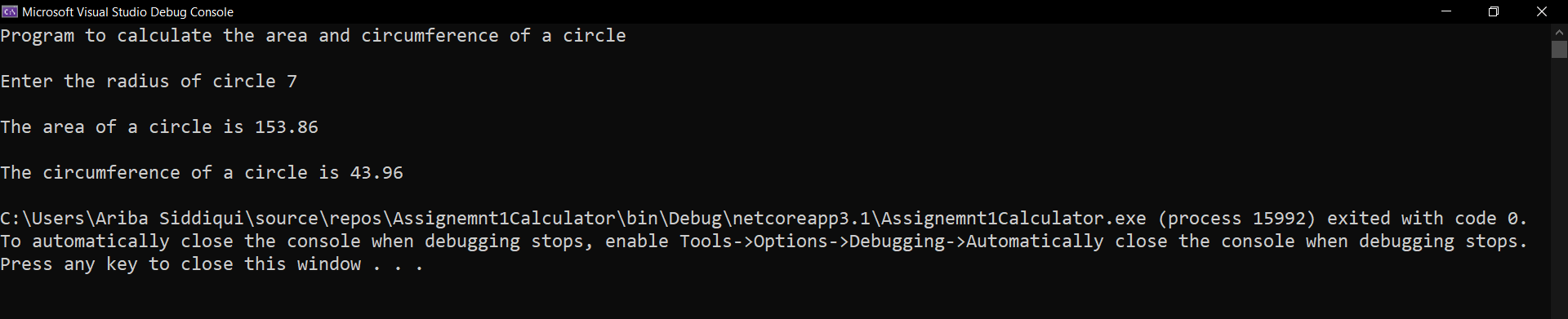
CircleCalc();

}

}

}

**OUTPUT:**



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.

**INPUT:**

using System;

namespace AssignmentBook

{

public enum BookType

{

Magazine,

Novel,

ReferenceBook,

Miscellaneous

}

struct Book

{

public string bookId;

public string title;

public string booktype;

public string price;

}

public class BookRecord

{

static void RecordBook()

{

int nobook = 1000;

Book[] books = new Book[nobook];

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

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

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

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

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

{

Console.WriteLine("Information of book :", 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 in Enum.GetValues(typeof(BookType)))

Console.WriteLine((BookType)b);

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

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 < n; 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();

}

}

public static void Main()

{

RecordBook();

}

}

## }

## **OUTPUT:**

## 