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;
          }
        }
     }
```

2. 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;
        }
    }
}
```

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.

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);
  }
}
```

4. 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);



 }

}
```

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

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);

    }

  }
```

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

   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].booki
d,b[i].title,b[i].price,b[i].booktype);
        Console.ReadLine();
    }
    }
}
```