C# .Net Programming Assignment 1

- Create separate visual Studio project for each problem statement separately.
- For Business logic write separate class.
- Use Object Oriented concepts while writing the program.

Consider below Example for reference:

Write a program which performs addition and subtraction of two numbers.

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```
using System;

   // Class declaration
   class Arithmetic
   {
      int no1;                          // Characteristics
      int no2;                          // Characteristics
      int result;

      public void Accept(int x, int y)  // Behaviour to accept input
      {
         no1 = x;
         no2 = y;
      }

      public void Add()                 // Behaviour to perform Addition
      {
         result = no1 + no2;
      }

      public void Sub()                 // Behaviour to perform Subtraction
      {
         result = no1 - no2;
      }

      public void Display()             // Behaviour to Display output
      {
         Console.WriteLine("First Argument: {0}", no1);
         Console.WriteLine("Second Argument: {0}", no2);
         Console.WriteLine("Addition is: {0}", result);
      }
   }

   // Class which contains entry point function
   class Marvellous
   {
      // Entry point function
      static void Main(string[] args)
      {
         // Create object of Arithmetic class
```

```
        Arithmetic obj1 = new Arithmetic();
        Arithmetic obj2 = new Arithmetic();

        // Call the behaviour to set characteristics
        obj1.Accept(20,10);

        // Call the behaviour to perform addition
        obj1.Add();

        // Call the behaviour to display the output
        obj1.Display();

        // Call the behaviour to set characteristics
        obj2.Accept(11, 21);

        // Call the behaviour to perform addition
        obj2.Add();

        // Call the behaviour to display the output
        obj2.Display();

        // Call the behaviour to perform Subtraction
        obj2.Sub();

        // Call the behaviour to display the output
        obj2.Display();
    }
}
```

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1. Write a program which accept three numbers from user and return maximum and minimum number from them.

```
using System;

   // Class declaration
   class Numbers
   {
      int no1;                                  // Characteristics
      int no2;                                  // Characteristics
       int no3;                                 // Characteristics

       public Numbers(int x, int y , int z)     // Constructor
       {
          no1 = x;
          no2 = y;
           no3 = z;
       }

       public int Max()                         // Behaviour to find Maximum
```

```
        {
            // Logic
        }

        public int Max()                        // Behaviour to find Minimum
        {
            // Logic
        }
    }

    // Class which contains entry point function
    class Marvellous
    {
        // Entry point function
        static void Main(string[] args)
        {
            // Create object of above class and call the methods
        }
    }
```

2. Write a program which accept 5 numbers from command line and perform addition of that numbers and display on console.

3. Write a program which accept number from user and display its factorial using OOP.

4. Write a program which accept number from user and count digits of that number using OOP.

5. Write a program which accepts two numbers and swap its contents using call by address and call. y reference mechanism.

```
class Swapping
{
        public void swapA(int * p, int *q)
        {
                // Logic
        }

        public void swapR(int ref p, int ref q)
        {
                // Logic
        }
}
```