

## Day 16 Assignment

By

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14-02-2022



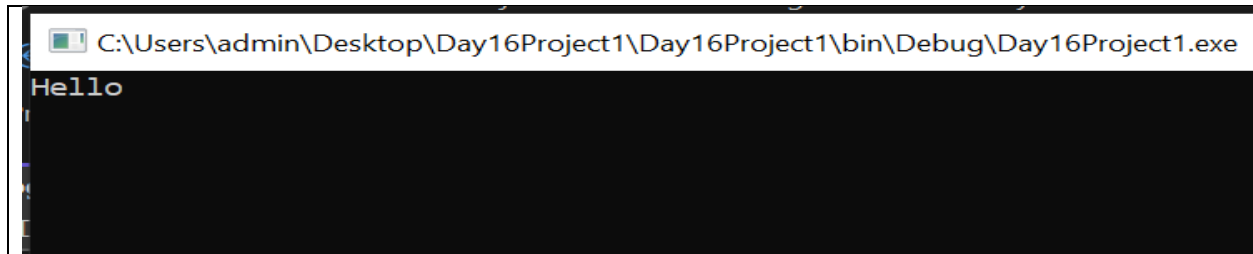
### 1. WACP to print Hello World Hint: Think object oriented

#### Code:

```
using System;
using System.Collections.Generic;
using System.Linq;
using System.Text;
using System.Threading.Tasks;

namespace Day16Project1
{
    //Author: Vinay Kudali
    //Purpose: Printing Hello World Program In Object Oriented
    public class Message
    {
        /// <summary>
        /// This method will Print "Hello"
        /// </summary>
        public void PrintHello()
        {
            Console.WriteLine("Hello");
        }
    }
    internal class Program
    {
        static void Main(string[] args)
        {
            Message message = new Message();
            message.PrintHello();
            Console.ReadLine();
        }
    }
}
```

#### Output:



## 2. WACP to read a number from user and print factorial of it. Hink : Think object oriented

### Code:

```
using System;
using System.Collections.Generic;
using System.Linq;
using System.Text;
using System.Threading.Tasks;

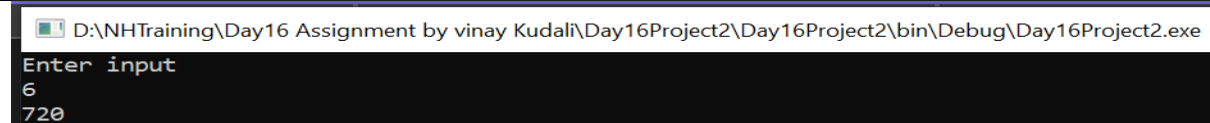
namespace Day16Project2
{
    public class Mathematics
    {
        //Author : Vinay Kudali
        //Purpose: Reading and Printing Factorial Using Object Oriented
        int input;
        /// <summary>
        /// This method will Read Data
        /// </summary>
        public void ReadData()
        {
            Console.WriteLine("Enter input");
            input=Convert.ToInt32(Console.ReadLine());
        }
        /// <summary>
        /// This Method will Print Data
        /// </summary>
        /// <returns>fact</returns>
        public int PrintData()
        {
            int fact =1;
            for (int i = 1; i<=input; i++)
            {
                fact= fact*i;
            }
            return fact;
        }
    }
}
```

```

    }
}
internal class Program
{
    static void Main(string[] args)
    {
        Mathematics m1 = new Mathematics();
        m1.ReadData();
        Console.WriteLine(m1.PrintData());
        Console.ReadLine();
    }
}
}

```

### Output:



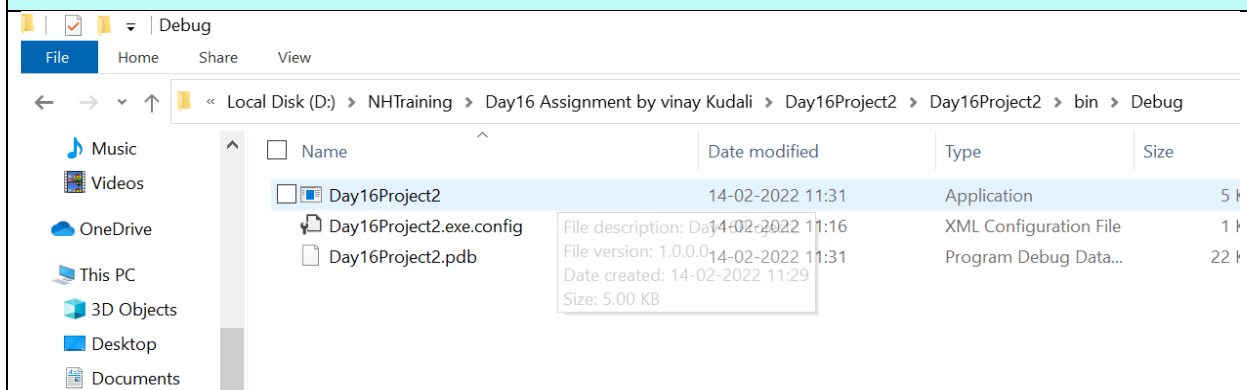
D:\NHTraining\Day16 Assignment by vinay Kudali\Day16Project2\Day16Project2\bin\Debug\Day16Project2.exe

Enter input

6

720

### 3. For the console application created in 2nd task, add screen shot of the .exe file location.



### 4. Create a Class Library Project with name as <Your Name>Library (Example: MeganadhLibrary) Create a class Mathematics as discussed in the class. [ Add methods for reading number and finding factorial]

#### Code:

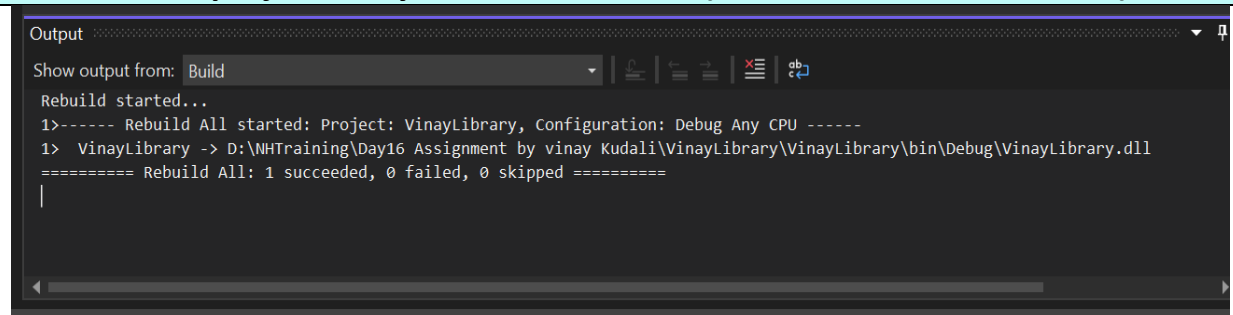
```

using System;
using System.Collections.Generic;
using System.Linq;
using System.Text;
using System.Threading.Tasks;

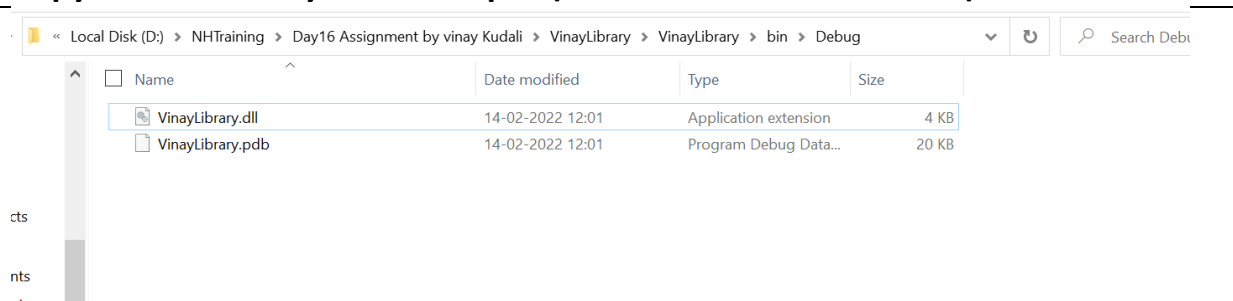
namespace VinayLibrary
{
    internal class Mathematics
    {
        int input;
        public void ReadData()
        {
            Console.WriteLine("Enter A value");
            input=Convert.ToInt32(Console.ReadLine());
        }
        public int GetFactorial()
        {
            int fact =1;
            for (int i = 1; i <= input; i++)
            {
                fact = fact*i;
            }
            return fact;
        }
    }
}

```

**Re-Build the project and you will a .dll file. (Put the screen shot of this)**



**Copy the dll file to your desktop (Put the screen shot of this)**





**5. Create a class library with three classes in it: a. Mathematics b. Physics c. Chemistry and add methods as discussed in the class. refer all the three classes in a console application.**

**A. Mathematics:**

```
using System;
using System.Collections.Generic;
using System.Linq;
using System.Text;
using System.Threading.Tasks;

namespace VinayLibrary
{
    public class Mathematics
    {
        int input;
        public void ReadData()
        {
            Console.WriteLine("Enter A value");
            input=Convert.ToInt32(Console.ReadLine());
        }
        public int GetFactorial()
```

```

    {
        int fact =1;
        for (int i = 1; i <= input; i++)
        {
            fact = fact*i;
        }
        return fact;
    }
}
}

```

### **B. Chemistry:**

```

using System;
using System.Collections.Generic;
using System.Linq;
using System.Text;
using System.Threading.Tasks;

namespace VinayLibrary
{
    public class Chemistry
    {
        public string Carbondioxide()
        {
            return "Co2";
        }
        public string Ammonium()
        {
            return "NH4";
        }
        public string Aluminuim()
        {
            return "al";
        }
    }
}

```

### **C. Physics:**

```

using System;
using System.Collections.Generic;
using System.Linq;
using System.Text;
using System.Threading.Tasks;

namespace VinayLibrary
{
    public class Chemistry
    {

```

```

    public string Carbondioxide()
    {
        return "Co2";
    }
    public string Ammonium()
    {
        return "NH4";
    }
    public string Aluminuim()
    {
        return "al";
    }
}
}

```

### **VinayLibrary:**

```

using System;
using System.Collections.Generic;
using System.Linq;
using System.Text;
using System.Threading.Tasks;
using VinayLibrary;

namespace Day16Project3
{
    internal class Program
    {
        static void Main(string[] args)
        {
            Console.WriteLine("***Mathematics calss***");
            Mathematics m1 = new Mathematics();
            m1.ReadData();
            Console.WriteLine(m1.GetFactorial());
            Console.WriteLine("\n");
            Console.WriteLine("***Chemistry Class");
            Chemistry c = new Chemistry();
            Console.WriteLine(c.Carbondioxide());
            Console.WriteLine(c.Aluminuim());
            Console.WriteLine(c.Ammonium());
            Console.WriteLine("\n");
            Console.WriteLine("***Physics Class");
            Physics p=new Physics();
            Console.WriteLine(p.FinalVelocity(5,3,2));

            Console.ReadLine();

        }
    }
}

```

```
}
```

### Output:

```
D:\NHTraining\Day16 Assignment by vinay Kudali\Day16Project3\Day16Project3\bin\Debug\Day16Project3.exe
***Mathematics calss***
Enter A value
7
5040

***Chemistry Class
Co2
Al
NH4

***Physics Class
11
```

## 6. WACP to print multiplication table of a number

### Code:

```
using System;
using System.Collections.Generic;
using System.Linq;
using System.Text;
using System.Threading.Tasks;

namespace Day16Project4MultiplicationTable
{
    internal class Multiplication
    {
        //Author: Vinay Kudali
        //Purpose: Writing Multiplication Table using OOps
        int input;
        /// <summary>
        /// This method will Read data
        /// </summary>
        public void ReadData()
        {
            Console.WriteLine("Enter A Number");
            input=Convert.ToInt32(Console.ReadLine());
        }
        /// <summary>
        /// This method will perform Multiplication Table
        /// </summary>
        public void GetMultiplication()
```



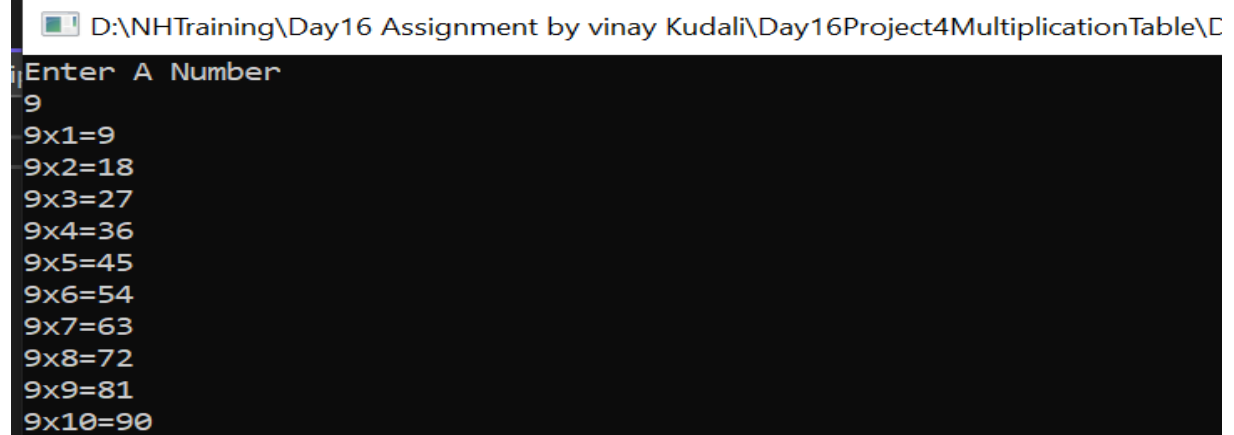
```

    {
        for (int i = 1; i <= input; i++)
        {
            Console.WriteLine(input+"x"+i+"="+input*i);
        }
    }

    static void Main(string[] args)
    {
        Multiplication m = new Multiplication();
        m.ReadData();
        m.GetMultiplication();
        Console.ReadLine();
    }
}

```

#### Output:



The screenshot shows a console window titled "D:\NHTraining\Day16 Assignment by vinay Kudali\Day16Project4MultiplicationTable\C". The prompt "Enter A Number" is displayed, followed by the input "9". The output shows the multiplication table for 9, from 9x1 to 9x10.

```

Enter A Number
9
9x1=9
9x2=18
9x3=27
9x4=36
9x5=45
9x6=54
9x7=63
9x8=72
9x9=81
9x10=90

```

## 7. WACP to check if the given number is Palindrome or not

#### Code:

```

using System;
using System.Collections.Generic;
using System.Linq;
using System.Text;
using System.Threading.Tasks;

namespace Day16Project5Pallindrome
{

```

```

//Author : Vinay Kudali
//Purpose : Writing Palindrome Using OOPs
public class Palindrome
{
    int input;
    /// <summary>
    /// This method will read data from user
    /// </summary>
    public void ReadData()
    {
        Console.WriteLine("Enter value");
        input=Convert.ToInt32(Console.ReadLine());
    }
    /// <summary>
    /// This method will Check The given value is Palindrome or not
    /// </summary>
    public void CheckPalindromeOrNot()
    {
        int sum = 0, rem = 0, temp = input;
        while (input>0)
        {
            rem=input%10;
            sum = sum*10+rem;
            input= input/10;
        }
        if (temp==sum)
        {
            Console.WriteLine("{0} is a palindrome", temp);
        }
        else
            Console.WriteLine("{0} Given value is Not a Palindrome", temp);
    }
}

internal class Program
{
    static void Main(string[] args)
    {
        Palindrome p = new Palindrome();
        p.ReadData();
        p.CheckPalindromeOrNot();
        Console.ReadLine();
    }
}

```

**Output:**

```
D:\NHTraining\Day16 Assignment by vinay Kudali\Day16Project5Pallindrome\Day16Project5Pallindrome\bin
Enter value
727
727 is a palindrome
```

**8. Create a solution "MyProject" (as discussed in class) Add three projects**  
**a. YourNameLibrary (and add any class with methods) b. PublicLibrary (add**  
**any class with methods) c. ClientApp (and here refer above two libraries)**

**Physics:**

```
using System;
using System.Collections.Generic;
using System.Linq;
using System.Text;
using System.Threading.Tasks;

namespace PublicLibrary
{
    public class Physics
    {

        public int Velocity(int m, int a)
        {
            return m*a;
        }
    }
}
```

**Mathematics:**

```
using System;
using System.Collections.Generic;
using System.Linq;
using System.Text;
using System.Threading.Tasks;

namespace Vinay1Library
{
    public class Mathematics
    {
```

```

int a = 5;
int b = 4;

public void Addition()
{
    Console.WriteLine(a+b);
}

public int Subtraction()
{
    return a-b;
}
}

```

#### Client App:

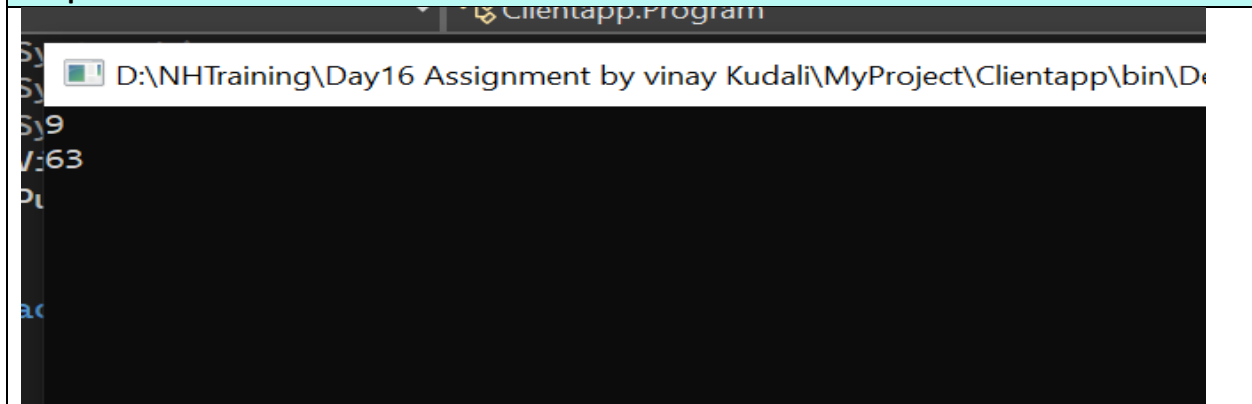
```

using System;
using System.Collections.Generic;
using System.Linq;
using System.Text;
using System.Threading.Tasks;
using Vinay1Library;
using PublicLibrary;

namespace Clientapp
{
    public class Program
    {
        static void Main(string[] args)
        {
            Mathematics m=new Mathematics();
            m.Addition();
            m.Subtraction();
            Physics p = new Physics();
            Console.WriteLine(p.Velocity(7, 9));

            Console.ReadLine();
        }
    }
}

```

**Output:****9. Add one more project (windows application) Add some 3 or 4 screen shots just to prove that you have done this.****Code:**

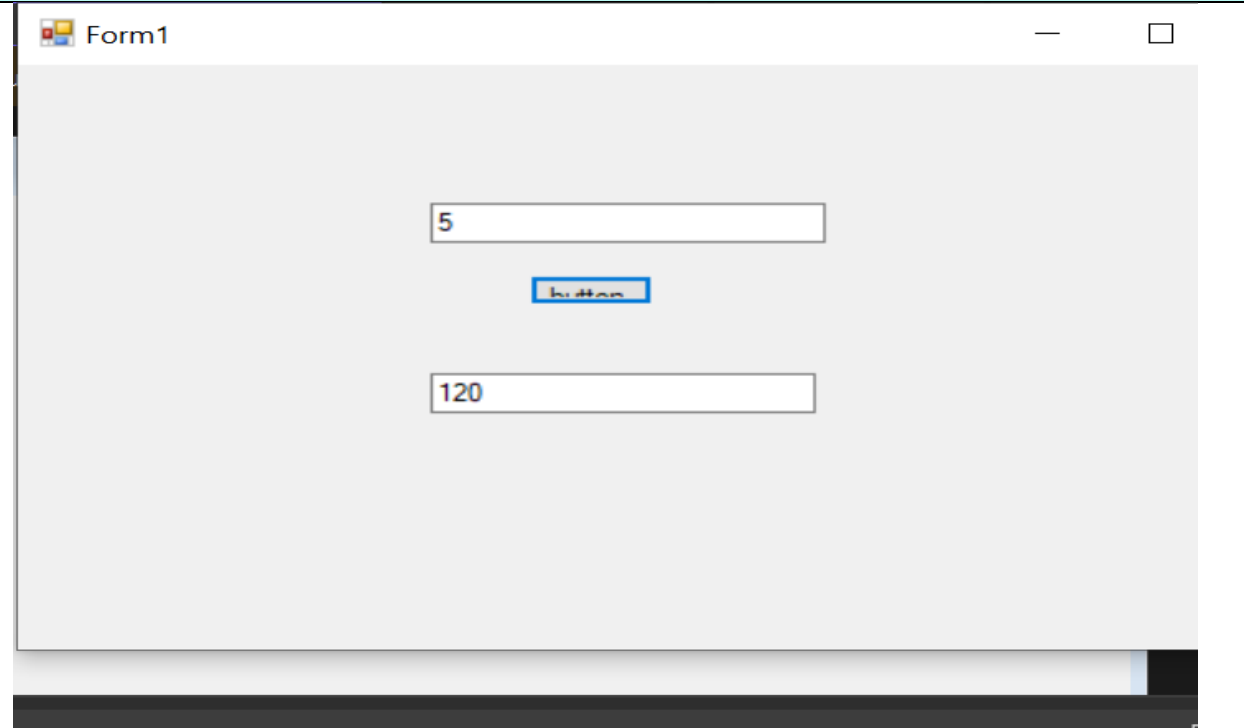
```
using System;
using System.Collections.Generic;
using System.ComponentModel;
using System.Data;
using System.Drawing;
using System.Linq;
using System.Text;
using System.Threading.Tasks;
using System.Windows.Forms;
using PublicLibrary;
using Vinay1Library;

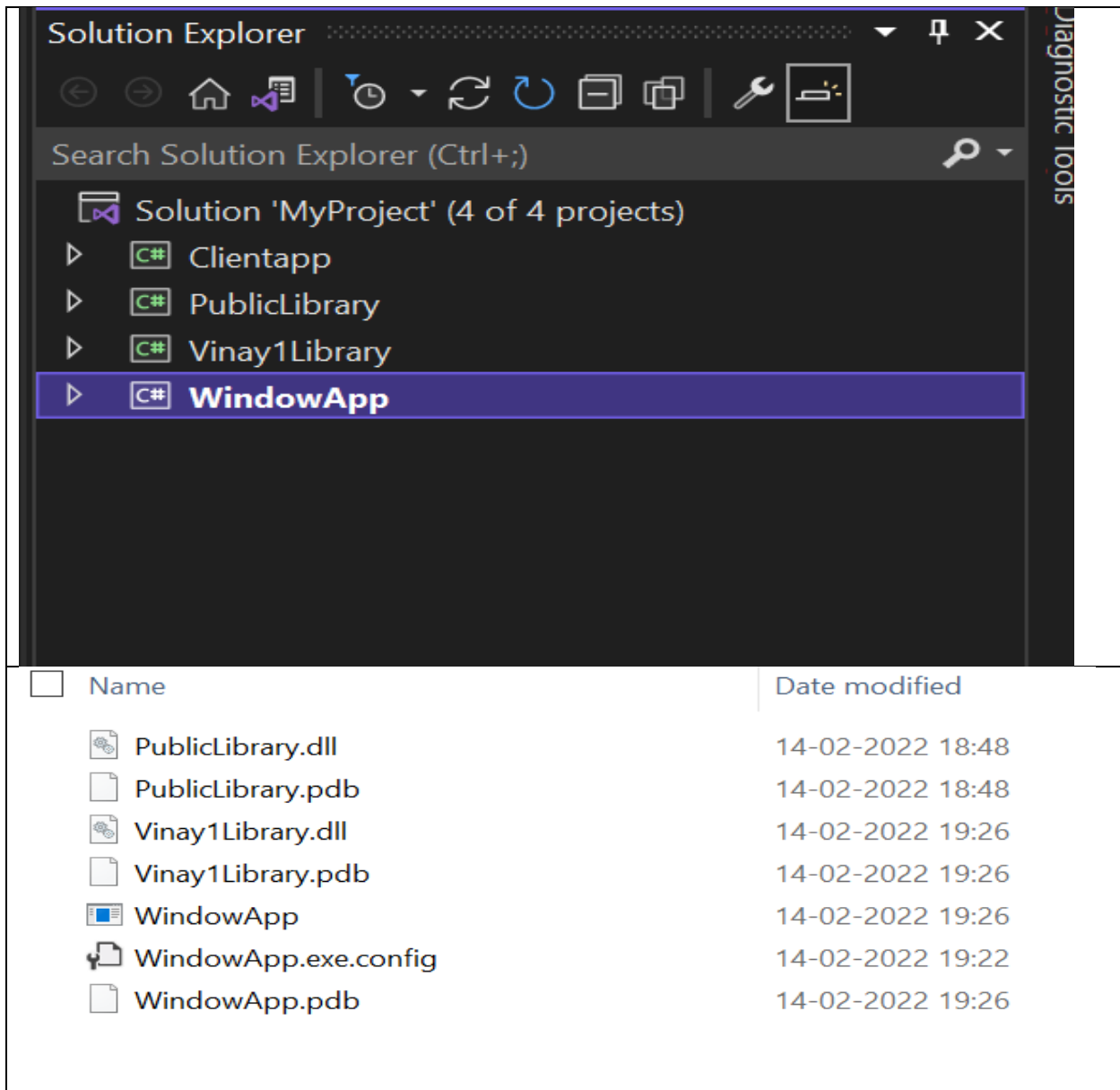
namespace WindowApp
{
    public partial class Form1 : Form
    {
        public Form1()
        {
            InitializeComponent();
        }

        private void button1_Click(object sender, EventArgs e)
        {
            int input=Convert.ToInt32(textBox1.Text);
            int fact=Mathematics.Fact(input);
            textBox2.Text = fact.ToString();
        }
    }
}
```

```
private void Form1_Load(object sender, EventArgs e)
{
}
}
```

#### Output:





**Solution Explorer**

Search Solution Explorer (Ctrl+;)

Solution 'MyProject' (4 of 4 projects)

- Clientapp
- PublicLibrary
- Vinay1Library
- WindowApp**

Name	Date modified
PublicLibrary.dll	14-02-2022 18:48
PublicLibrary.pdb	14-02-2022 18:48
Vinay1Library.dll	14-02-2022 19:26
Vinay1Library.pdb	14-02-2022 19:26
WindowApp	14-02-2022 19:26
WindowApp.exe.config	14-02-2022 19:22
WindowApp.pdb	14-02-2022 19:26

## 10. Research and write what is the use of partial classes in C#

Partial classes are portions of a class that the compiler can combine to form a complete class. Although you could define two or more partial classes within the same file, the general purpose of a partial class is **to allow the splitting of a class definition across multiple files.**

**Code:**

**WRITE EXAMPLE CODE AND PUT SCREEN SHOTS**

```

using System;
using System.Collections.Generic;
using System.Linq;
using System.Text;
using System.Threading.Tasks;

namespace Vinay1Library
{
    //Author : Vinay Kudali
    //Purpose: Creating Mathematics class Using Partial
    public static partial class Mathematics
    {
        /// <summary>
        /// this method will perform Multiplication
        /// </summary>
        /// <param name="7"></param>
        /// <param name="8"></param>
        /// <returns>mul</returns>
        public static int Mul( int a, int b)
        {
            return a*b;
        }
    }
}

```

0 references

```

static void Main(string[] args)
{
    Console.WriteLine( Mathematics.Addition(7,8));
    Console.WriteLine( Mathematics.Subtraction(9,7));
    Console.WriteLine(Mathematics.Mul(6,2));
}

```

D:\NHTraining\Day16 Assignment by vinay Kudali\MyProject\Clientapp\bin\Debug\Clientapp.exe

15  
12  
12  
63