Day 16 Assignment
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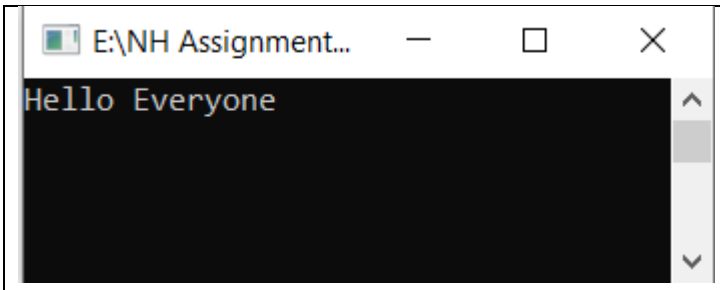
On 14-02-2022

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 Day_16_Project_1
{
   //Author:Mary Margaret
   //Print Hi
   class Hi
   {
      public static void PrintHi()
         {
         Console.WriteLine("Hello Everyone ");
         }
   }
   internal class Program
   {
      static void Main(string[] args)
      {

         Hi.PrintHi();

         Console.ReadLine();
      }
   }
}
```

Output:



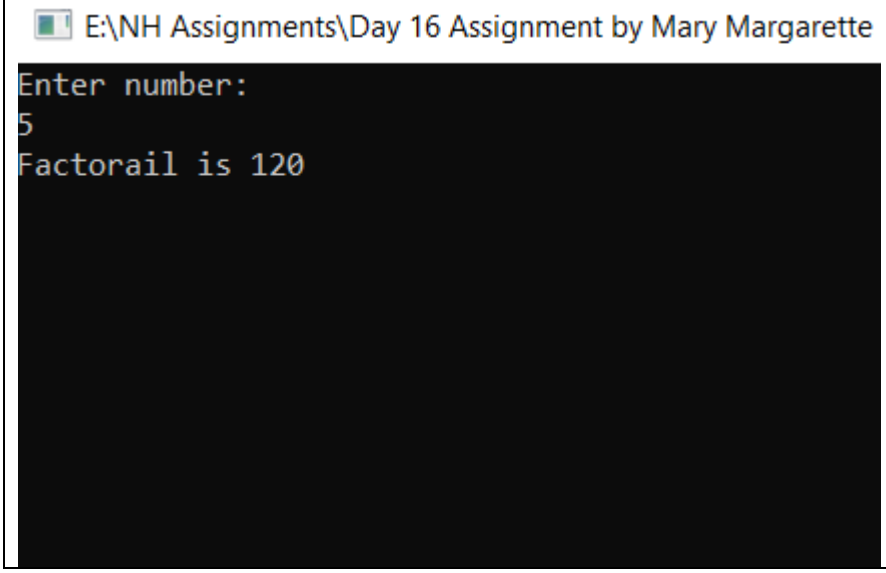
WACP to read a number from user and print factorial of it.
Hint: Think object oriented

Code:

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

namespace Day_16_Project_2
{
   class Factorial
   {
      int n;
      public void ReadData()
      {
         Console.WriteLine("Enter number:");
         n=Convert.ToInt32(Console.ReadLine());
      }
      public int Fact()
      {
         int fact = 1;
         for(int i=1;i<=n;i++)
         {
            fact=fact*i;
         }
         return fact;
      }
   }
```

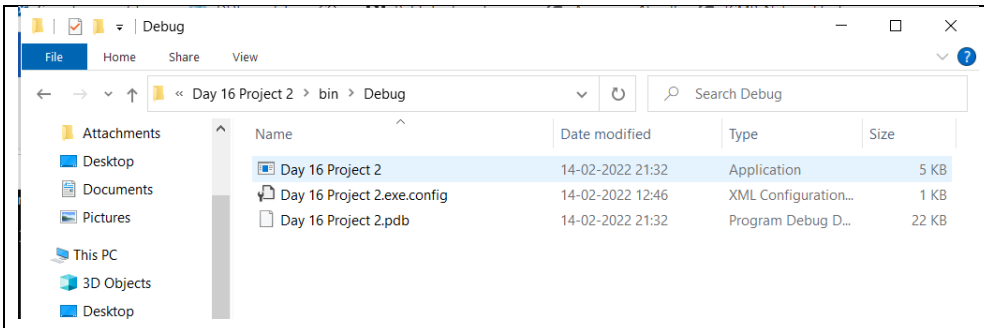
```
    internal class Program
    {
        static void Main(string[] args)
        {
            Factorial f = new Factorial();
            f.ReadData();
            Console.WriteLine("Factorail is "+f.Fact());
            Console.ReadLine();
        }
    }
}
```

Output:



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

Output:



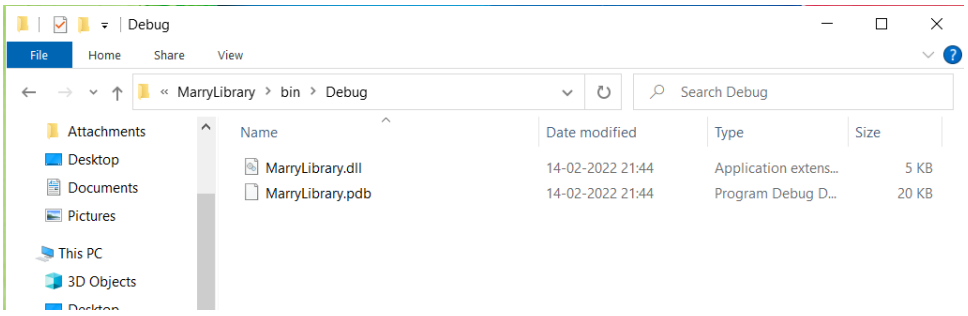
Create a Class Library Project with name as
<Your Name>Library (Example: MeganadhLibrary)
Create a class Mathematics as discussed in the class.
[Add methods for reading number and finding factorial]
Re-Build the project and you will a .dll file. (Put the screen shot of this)
Copy the .dll file to your desktop (Put the screen shot of this)

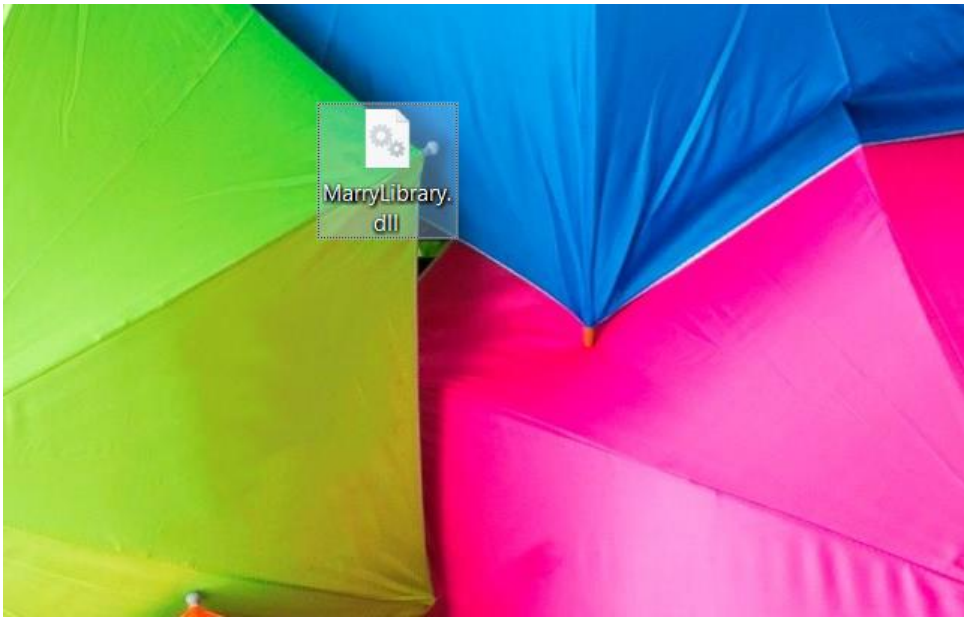
Code:

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

namespace MarryLibrary
{
   public class Mathematics
   {
      int n;
      public void ReadData()
      {
         Console.WriteLine("Enter number:");
         n=Convert.ToInt32(Console.ReadLine());
      }
      public int Factorial()
      {
         int fact = 1;
         for(int i=1;i<=n;i++)
         {
```

```
            fact=fact*i;
        }
        return fact;
    }
  }
}
```

Output:





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.

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

namespace MarryLibrary
{
   public class Mathematics
   {
      int n;
      public void ReadData()
      {
         Console.WriteLine("Enter number:");
         n=Convert.ToInt32(Console.ReadLine());
      }
      public int Factorial()
      {
         int fact = 1;
         for(int i=1;i<=n;i++)
         {
            fact=fact*i;
         }
         return fact;
      }
   }
}
```

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

namespace MarryLibrary
```

```
{
   public class Physics
   {
      public int FinalVelocity(int u,int a,int t)
      {
         return u+a*t;
      }
      public int Force(int m,int a)
      {
         return m*a;
      }
   }
}
```

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

namespace MarryLibrary
{
   public class Chemistry
   {
      public string GetWater()
      {
         return "H2O";
      }
      public string GetBenzene()
      {
         return "C6H6";
      }
      public string GetMethane()
      {
         return "CH4";
      }
   }
```

```
}
```

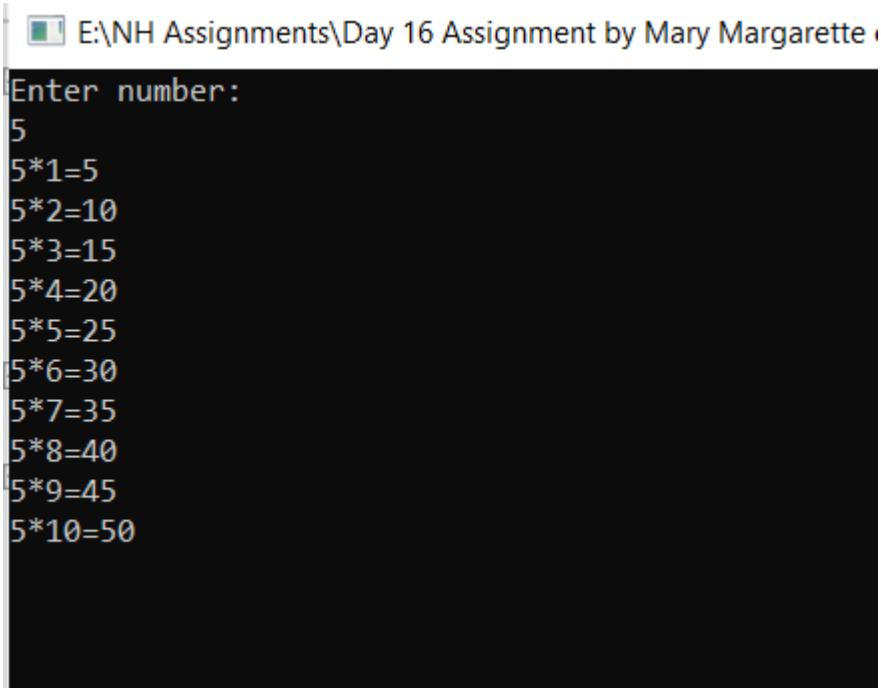
```
using System;
using System.Collections.Generic;
using System.Linq;
using System.Text;
using System.Threading.Tasks;
using MarryLibrary;

namespace Day_16_Project_3
{
   internal class Program
   {
      static void Main(string[] args)
      {
         Console.WriteLine("--------MatheMatics class-----\n");
         Mathematics mathematics = new Mathematics();
         mathematics.ReadData();
         Console.WriteLine("\nFactorial is "+mathematics.Factorial());
         Console.WriteLine("\n****Chemistry class******");
         Chemistry chemistry = new Chemistry();
         Console.WriteLine("\n"+chemistry.GetWater());
         Console.WriteLine("\n"+chemistry.GetMethane());
         Console.WriteLine("\n"+chemistry.GetBenzene());
         Console.WriteLine("\n#####PHYSIC$$$$$$\n");

         Physics physics = new Physics();
         Console.WriteLine("\nFinal Velocity is "+physics.FinalVelocity(5,4,3));
         Console.WriteLine("\nForce = "+physics.Force(5,4));

         Console.ReadLine();

      }
   }
}
```

WACP to print multiple table of a number
Code:

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

namespace Day_16_Project_4
{
   class Multiplication
   {
      int n;
      public void ReadData()
      {
         Console.WriteLine("Enter number:");
         n=Convert.ToInt32(Console.ReadLine());
      }
      public void Print()
      {
         for(int i=1;i<=10;i++)
```

```
        {
            Console.WriteLine(n+"*"+i+"="+n*i);
        }
    }
}
internal class Program
{
    static void Main(string[] args)
    {
        Multiplication multiplication = new Multiplication();
        multiplication.ReadData();
        multiplication.Print();
        Console.ReadLine();
    }
}
}
```

Output:



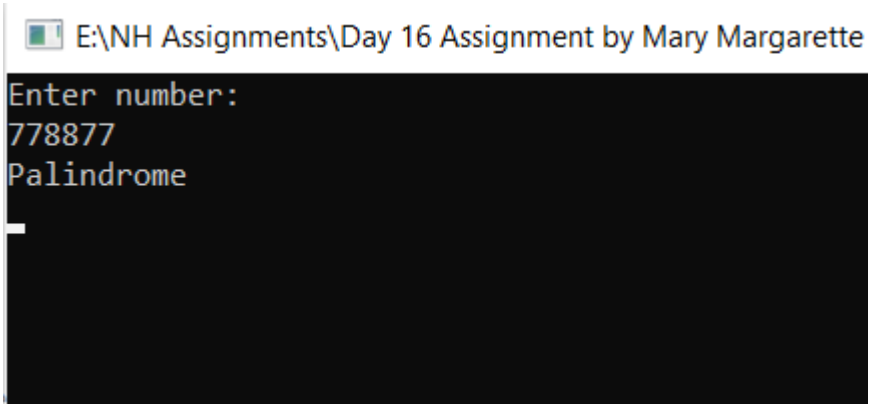
WACP to check if the given is number is Palindrome or not

Code:

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

namespace Day_16_Project_5
{
   class Palindrome
   {
      int n;
      int sum = 0;
      int rem;
      int temp;
      public void ReadData()
      {
         Console.WriteLine("Enter number:");
         n=Convert.ToInt32(Console.ReadLine());
      }
      public void Print()
      {
         temp = n;
         while(n>0)
         {
            rem = n % 10;
            sum = sum * 10 + rem;
            n = n / 10;
         }
         if (temp == sum)
            Console.WriteLine("Palindrome");
         else
            Console.WriteLine("Not Palindrome");
      }
   }
   internal class Program
   {
```

```
    static void Main(string[] args)
    {
        Palindrome p=new Palindrome();
        p.ReadData();
        p.Print();
        Console.ReadLine();
    }
  }
}
```

Output:



Create a solution "My Project" (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)
Note: If you are confused., see the video

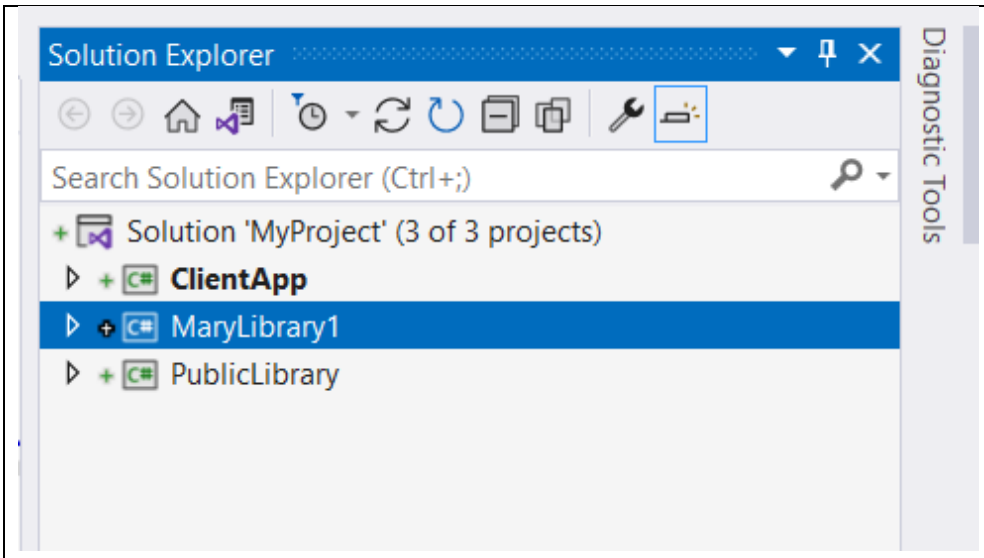
Code:

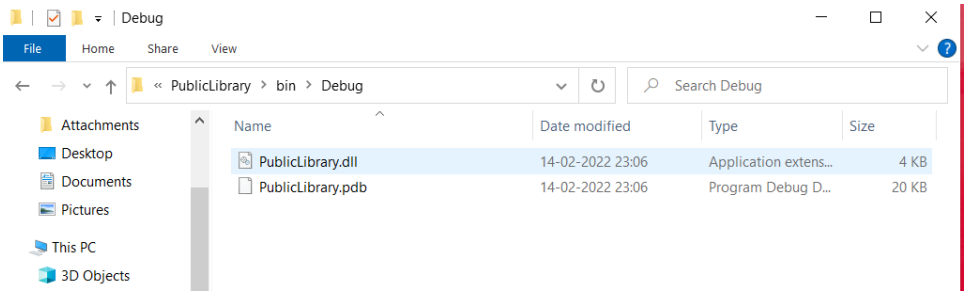
```
namespace MaryLibrary1
{
  public class Maths
  {
    public static int Fact(int n)
    {
      int fact = 1;
      for(int i=1;i<=n;i++)
```

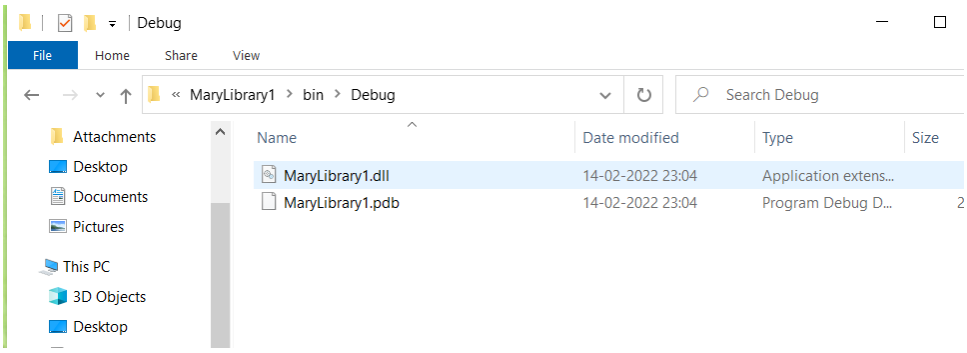
```
        {
            fact = fact * i;
        }
        return fact;
    }
  }
}


namespace MaryLibrary1
{
  public class Physics
  {
    public static int FinalVelocity(int u,int a,int t)
    {
      return u + a * t;
    }
  }
}


namespace PublicLibrary
{
  public class Chemistry
  {
    public static string GetBenzene()
    {
      return "C6H6";
    }
    public static string GetMethane()
    {
      return "CH4";
    }
  }
}
```

```
using System;
using System.Collections.Generic;
using System.Linq;
using System.Text;
using System.Threading.Tasks;
using MaryLibrary1;
using PublicLibrary;

namespace ClientApp
{
   internal class Program
   {
      static void Main(string[] args)
      {
         Console.WriteLine("Factorial is "+Maths.Fact(5));
         Console.WriteLine("Final Velocity "+Physics.FinalVelocity(5, 4, 5));
         Console.WriteLine("Methane "+Chemistry.GetMethane());
         Console.WriteLine("Benzene "+Chemistry.GetBenzene());
         Console.ReadLine();
      }
   }
}
```

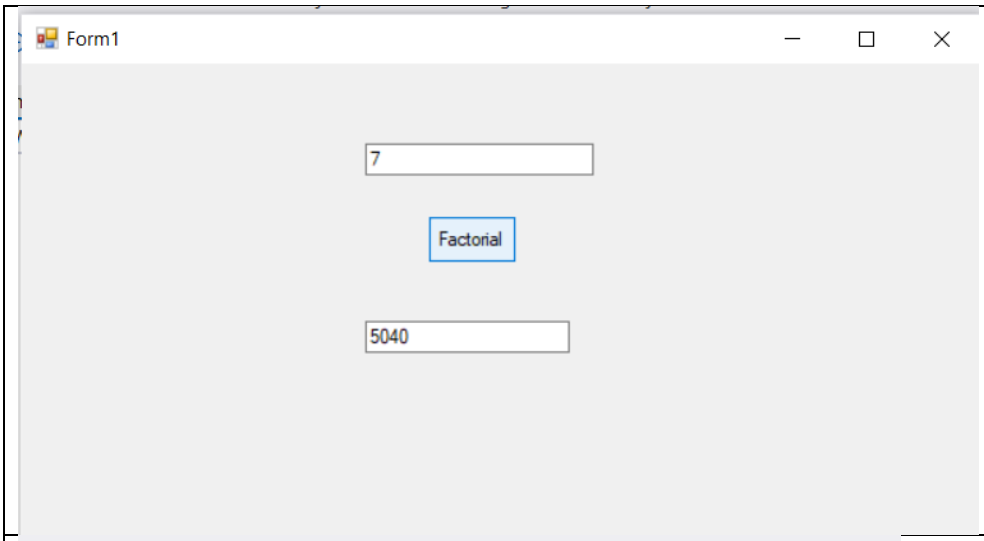
Output:

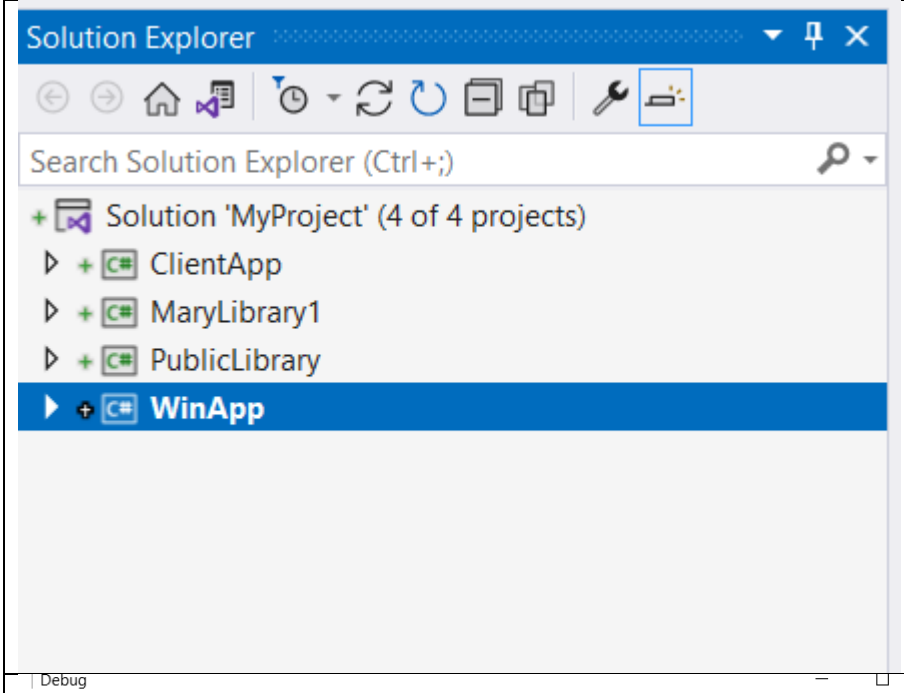


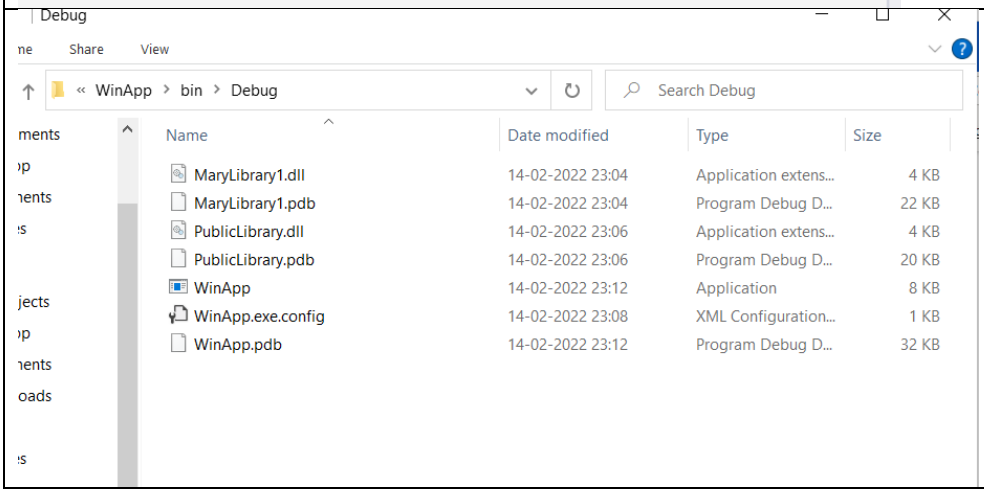




Add one more project (windows application) Add some 3 or 4 screen shots just to prove that you have done this.


Form1
7
Factorial
5040


Solution Explorer
Search Solution Explorer (Ctrl+;)
Solution 'MyProject' (4 of 4 projects)
ClientApp
MaryLibrary1
PublicLibrary
WinApp


Debug
Share
View
WinApp › bin › Debug
Search Debug
Name
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Type
Size
MaryLibrary1.dll 14-02-2022 23:04 Application extens... 4 KB
MaryLibrary1.pdb 14-02-2022 23:04 Program Debug D... 22 KB
PublicLibrary.dll 14-02-2022 23:06 Application extens... 4 KB
PublicLibrary.pdb 14-02-2022 23:06 Program Debug D... 20 KB
WinApp 14-02-2022 23:12 Application 8 KB
WinApp.exe.config 14-02-2022 23:08 XML Configuration... 1 KB
WinApp.pdb 14-02-2022 23:12 Program Debug D... 32 KB

Research and write what is the use of partial classes in C#WRITE EXAMPLE CODE AND PUT SCREEN SHOTS

Code:

```
namespace ClassLibrary1
{
   public static partial class Maths
   {
      public static int Add(int a,int b)
      {
         return a + b;
      }
      public static int Sub(int a,int b)
      {
         return a - b;
      }
   }
}



namespace ClassLibrary1
{
   public static partial class Maths
   {
      public static int Pro(int a,int b)
      {
         return a * b;
      }
      public static int Div(int a,int b)
      {
         return a / b;
      }
   }
}
```

```
namespace PartialClass
{
   internal class Program
   {
      static void Main(string[] args)
      {
         Console.WriteLine("Product "+Maths.Pro(5,4));
         Console.WriteLine("Addition "+Maths.Add(5,4));
         Console.WriteLine("Substraction "+Maths.Sub(8,2));
         Console.WriteLine("Division "+Maths.Div(6,2));
         Console.ReadLine();

      }
   }
}
```

Output: