DAY 16 ASSIGNMENT
BY
PAVAN KUMAR (14-02-2022)

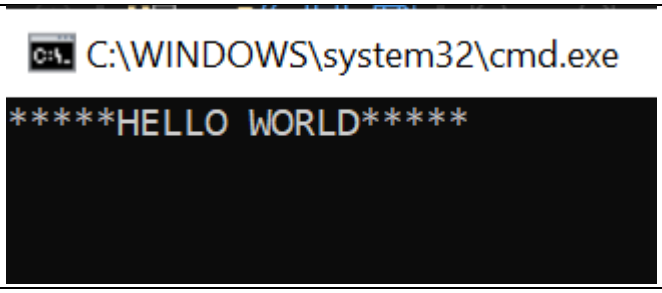
PROJECT: 1

WACP to print Hello World
Hint: Think object oriented.

CODE:

```
using System;
using System.Collections.Generic;


namespace Day16Project1
{
   /// <summary>
   /// DONE BY: PAVAN
   /// PURPOSE: PRINT HELLO IN OBJECT ORIENTED PROGRAM//
   /// </summary>
   class Message
   {
      public static void PrintHello()
      {
         Console.WriteLine("*****HELLO WORLD*****");
      }
   }
   internal class Program
   {
      static void Main(string[] args)
      {
         Message.PrintHello();
         Console.ReadLine();
      }
   }
}
```

OUTPUT:



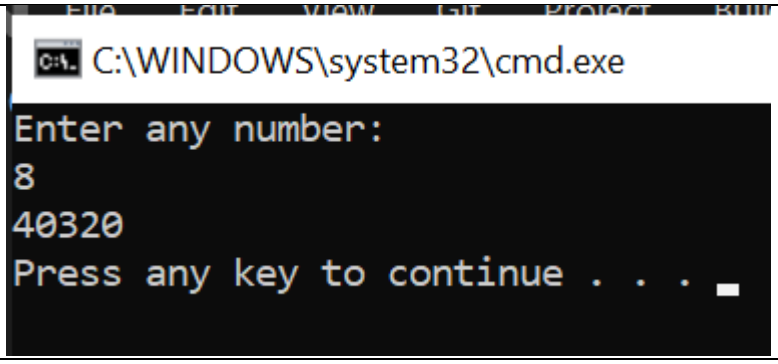
PROJECT: 2

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

CODE:

```
using System;
using System.Collections.Generic;

 namespace Day16Project2
{
   /// <summary>
   /// DONE: PAVAN
   /// PURPOSE: WACP TO READ A NUMBER FROM USER AND PRNT FACTORIAL OF IT.
   /// </summary>
   class Mathematics
   {
      int input;
      public void ReadData()
      {
         Console.WriteLine("Enter any number:");
         input = Convert.ToInt32(Console.ReadLine());

      }

      public int GetFactorial()
      {
         int fact = 1;

         for (int i = 1; i <= input; i++)
         {

               fact = fact * i;
            }
            return fact;
         }
      }
      internal class Program
      {
         static void Main(string[] args)
         {
            Mathematics m = new Mathematics();
            m.ReadData();
            Console.WriteLine(m.GetFactorial());
         }
      }
   }
```

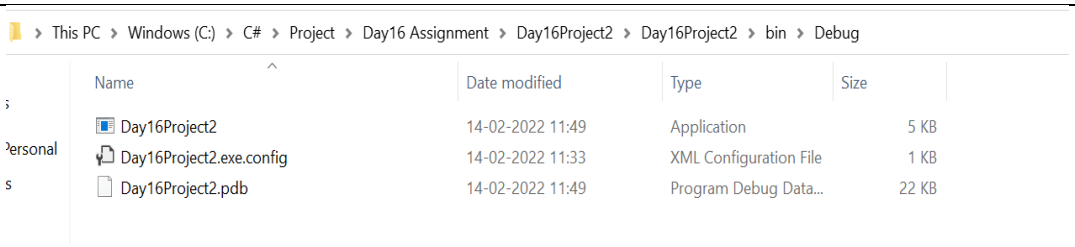
OUTPUT:



PROJECT: 3

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

SCREEN SHOT:



PROJECT: 4

Creating a Class Library Project with our name.

CODE:

```
using System;
using System.Collections.Generic;

namespace PavanLibrary
{
   /// <summary>
   /// DONE BY: PAVAN
   /// PURPOSE: CREATING A LIBRARY//
   /// </summary>
   internal class Mathematics
   {
      public void Add(int a, int b)
      {
         Console.WriteLine(a + b);
      }
      public void Mul(int a, int b)
      {
         Console.WriteLine(a * b);
      }
   }
}
```

OUTPUT:

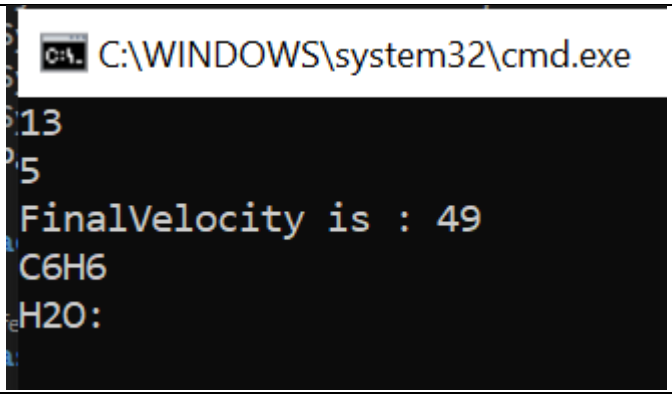
PROJECT: 5

Create a class library with three classes in it: a. Mathematics b. Physics c. Chemistry

CODE:

```
using System;
using System.Collections.Generic;
using PavanLibrary1;

namespace Day16Project5
{
   class Program
   {
      static void Main(string[] args)
      {
         Mathematics m = new Mathematics();
         Console.WriteLine(m.Add(5, 8));
         Console.WriteLine(m.Sub(12, 7));

         Physics p = new Physics();
         {
            p.FinalVelocity(9, 5, 8);
         }

         Chemistry c = new Chemistry();
         c.Benzene();
         c.Water();
         Console.ReadLine();
      }
   }
}
```

OUTPUT:



PROJECT: 6

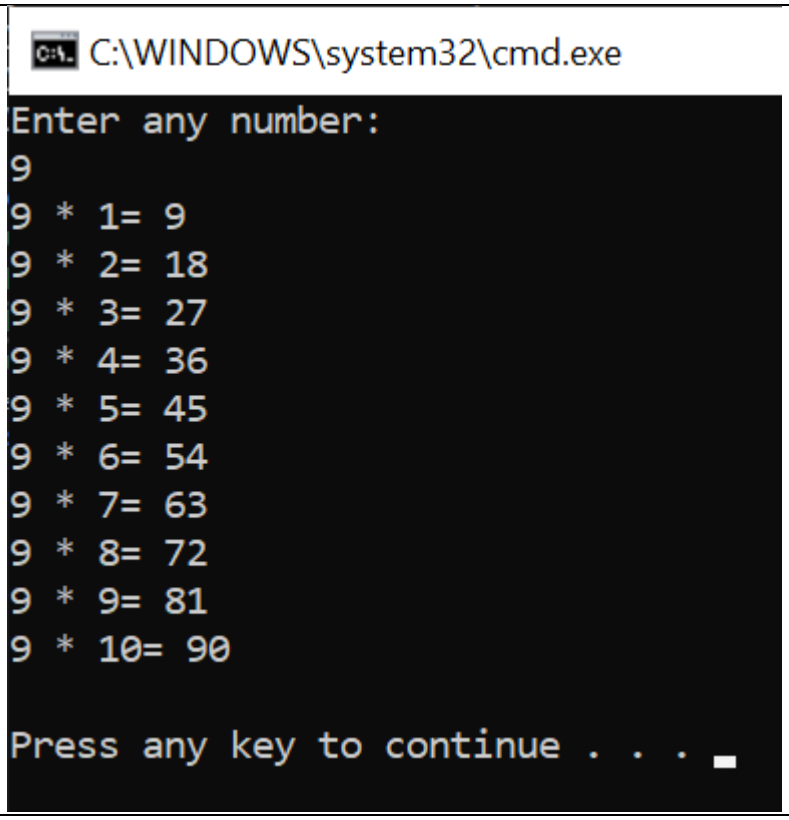
WACP to print multiplication table of a number.

CODE:

```
using System;
using System.Collections.Generic;

namespace Day16_MUL_TABLE_
{/// <summary>
/// DONE BY: PAVAN
/// PURPOSE: CREATING A MULTIPLICATIONTABLE USING OOPS//
/// </summary>
   class MultiplicationTable
   {
      /// <summary>
      /// Giving input and ReadData
      /// </summary>
      int input;
      public void ReadData()
      {
         Console.WriteLine("Enter any number:");
         input = Convert.ToInt32(Console.ReadLine());
      }
      /// <summary>
      /// Print a multiplication Table
      /// </summary>
      public void PrintTable()
      {
         for (int i = 1; i <= 10; i++)
            Console.WriteLine($"{input} * {i}= {input * i}");
      }
   }
   internal class Program
   {
      static void Main(string[] args)
      {
         MultiplicationTable t = new MultiplicationTable();
         t.ReadData();
         t.PrintTable();
         Console.ReadLine();
      }
```

```
    }
    }
```

OUTPUT:



PROJECT: 7

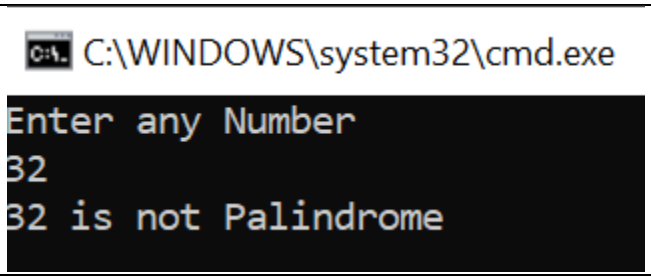
WACP to check if the given number is Palindrome or not.

CODE:

```
using System;
using System.Collections.Generic;
namespace Day16_PALINDROME_OR_NOT_
{
   /// <summary>
   /// DONE BY: PAVAN
   /// PURPOSE: CHECK if the given number is PALNDROME or not.
   /// </summary>
   class Palindrome
   {
      int num, pan, temp, sum = 0;
      public void ReadNumber()
      {
         Console.WriteLine("Enter any Number");
         num = Convert.ToInt32(Console.ReadLine());
      }
      public void PrintPalindrome()
      {
         temp = num;
         while (num > 0)
         {
```

```
            pan = num % 10;
            sum = (sum * 10) + pan;
            num = num / 10;
        }
        if (temp == sum)
            Console.Write($"{temp} is Palindrome.");
        else
            Console.Write($"{temp} is not Palindrome");
    }
}

internal class Program
{
    static void Main(string[] args)
    {
        Palindrome P = new Palindrome();
        P.ReadNumber();
        P.PrintPalindrome();
        Console.ReadLine();
    }
}
}
```

OUTPUT:



PROJECT: 8

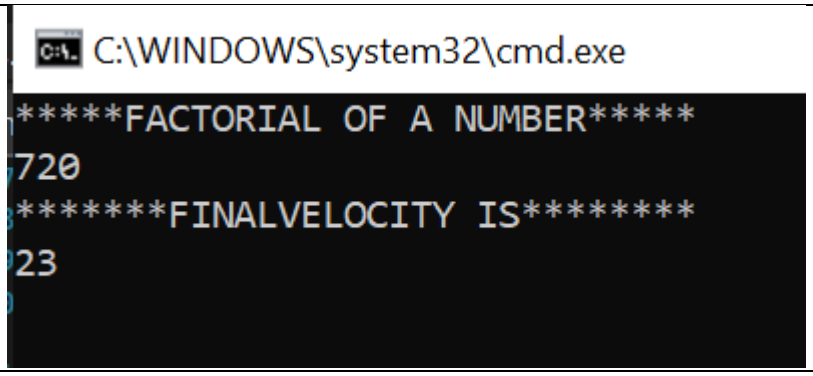
Create a solution "MyProject".

CODE:

```
using System;
using System.Collections.Generic;
using PavanLibrary2;
using PublicLibrary;
namespace ClientApp
{
    /// <summary>
    /// DONE BY: PAVAN
    /// PURPOSE: CREATING A solution "MyProject"
    /// </summary>
    internal class Program
    {
        static void Main(string[] args)
        {
            Console.WriteLine("*****FACTORIAL OF A NUMBER*****");
            Console.WriteLine(Mathematics.Factorial(6));
            Console.WriteLine("*******FINALVELOCITY IS********");
```

```
            Console.WriteLine(Physics.FinalVelocty(8, 9, 6));
            Console.ReadLine();
        }
    }
}
```

OUTPUT:



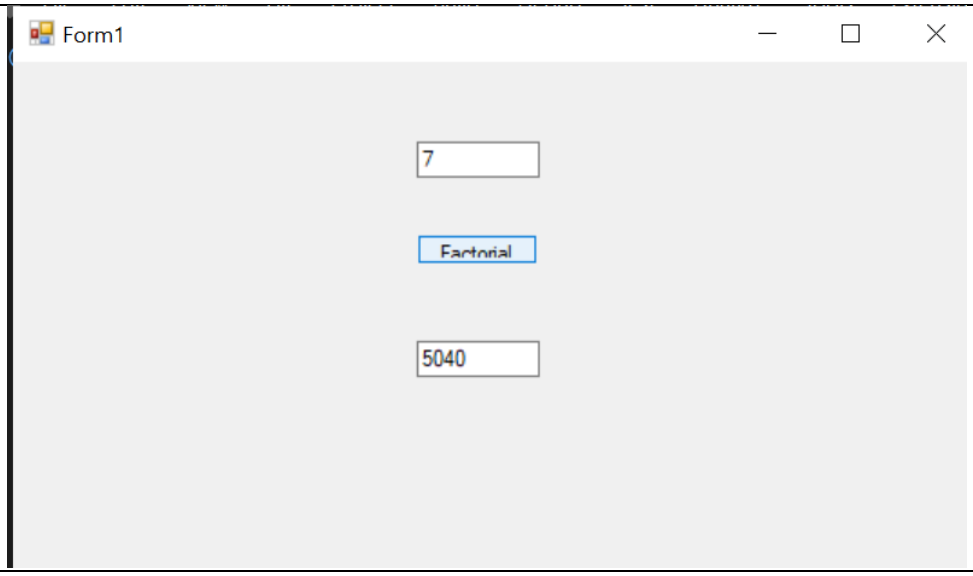
PROJECT: 9

Add one more project (windows application)

CODE:

```
using System;
using System.Collections.Generic;
using System.ComponentModel;
using System.Data;
using System.Drawing;
using PavanLibrary2;

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

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

OUTPUT:



PROJECT: 10

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

PARTIAL CLASS:

- A partial class is a special feature of C#. The partial keyword indicates that other parts of the class, structure, or interface can be defined in the namespace. All the parts must have the same accessibility, such as public, private.

(OR)

- The purpose of partial classes is to allow a class's definition to span across multiple files. This can allow better maintainability and separation of your code.

CODE:

```
using System;
using System.Collections.Generic;
using Pavan_Library;

namespace Day16Project_Partial_class_
{
  /// <summary>
  /// DONE BY: PAVAN
  /// PURPOSE: CREATING A PARTIAL CLASS/
  /// </summary>
  internal class Program
  {
    static void Main(string[] args)
    {
      Console.WriteLine("*****AIRTHEMATIC OPERATIONS****");
      Console.WriteLine("Addition of 9 and 11 is: ");
      Console.WriteLine(Mathematics.Add(9, 11));
      Console.WriteLine("****Subtraction of 8 and 2 is****");
      Console.WriteLine(Mathematics.Sub(8, 2));
      Console.WriteLine("****Multiplication of 8 and 2 is****");
      Console.WriteLine(Mathematics.Mul(8, 2));
      Console.WriteLine("****Division of 8 and 2 is****");
```

```
        Console.WriteLine(Mathematics.Div(8, 2));
        Console.ReadLine();

    }
  }
}
```

OUTPUT: