Feb 14th Assignment

By

Chandolu Surya Teja

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| 1. WACP to print Hello World |
| Code: |
| using System;  /\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*  \* Author: Surya Teja  \* Purpose: Hello World OOPS  \* \*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*/  namespace HelloWorldOOPS  {  class HelloWorld  {  /// <summary>  /// Print Hello World  /// </summary>  public void PrintHelloWorld()  {  Console.WriteLine("Hello World");  }  }  internal class Program  {  static void Main(string[] args)  {  HelloWorld hw = new HelloWorld();  hw.PrintHelloWorld();  Console.ReadLine();  }  }  } |
| Output: |
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| 1. WACP to read a number from user and print factorial of it. |
| Code: |
| using System;  /\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*  \* Author: Surya Teja  \* Purpose: Factorial OOPS  \* \*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*/  namespace FactorialOOPS  {  public class Factorial  {  public int input;  /// <summary>  /// Read data from user  /// </summary>  public void ReadNumber()  {  Console.Write("Enter Number: ");  input = Convert.ToInt32(Console.ReadLine());  }  /// <summary>  /// Factorial logic  /// </summary>  /// <returns>Factorial value</returns>  public int GetFact()  {  int fact = 1;  for (int i = 2; i <= input; i++)  fact = fact \* i;  return fact;  }  }  internal class Program  {  static void Main(string[] args)  {  Factorial f = new Factorial();  f.ReadNumber();  Console.WriteLine($"Factorial of {f.input} is {f.GetFact()}");  Console.ReadLine();  }  }  } |
| Output: |
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| 1. For the console application created in 2nd task, add screen shot of the .exe file location |
| Screenshot: |
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| 1. Create a Class Library Project |
| Code: |
| using System;  /\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*  \* Author: Surya Teja  \* Purpose: Mathematics Library  \* \*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*/  namespace Surya  {  public class Mathematics  {  public int input;  /// <summary>  /// Read data from user  /// </summary>  public void ReadNumber()  {  Console.Write("Enter Number: ");  input = Convert.ToInt32(Console.ReadLine());  }  /// <summary>  /// Factorial logic  /// </summary>  /// <returns>Factorial value</returns>  public int GetFact()  {  int fact = 1;  for (int i = 2; i <= input; i++)  fact = fact \* i;  return fact;  }  }  } |
| Output: |
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| 1. Create a class library with three classes |
| Code: |
| Chemistry:  using System;  /\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*  \* Author: Surya Teja  \* Purpose: Physics Library  \* \*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*/  namespace Surya  {  public class Chemistry  {  public string water;  public string acid;  /// <summary>  /// Read User Input  /// </summary>  public void ReadData()  {  Console.Write("Enter Water formula: ");  water = Console.ReadLine();  Console.Write("Enter Acid formula: ");  acid = Console.ReadLine();  }  /// <summary>  /// Print Output  /// </summary>  public void Output()  {  Console.WriteLine($"Water formula is {water}");  Console.WriteLine($"Acid formula is {acid}");  }  }  }  Mathematics:  using System;  /\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*  \* Author: Surya Teja  \* Purpose: Mathematics Library  \* \*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*/  namespace Surya  {  public class Mathematics  {  public int input;  /// <summary>  /// Read data from user  /// </summary>  public void ReadNumber()  {  Console.Write("Enter Number: ");  input = Convert.ToInt32(Console.ReadLine());  }  /// <summary>  /// Factorial logic  /// </summary>  /// <returns>Factorial value</returns>  public int GetFact()  {  int fact = 1;  for (int i = 2; i <= input; i++)  fact = fact \* i;  return fact;  }  }  }  Physics:  using System;  /\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*  \* Author: Surya Teja  \* Purpose: Physics Library  \* \*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*/  namespace Surya  {  public class Physics  {  public int d;  public int t;  /// <summary>  /// User Input  /// </summary>  public void ReadData()  {  Console.Write("Enter Distance: ");  d = Convert.ToInt32(Console.ReadLine());  Console.Write("Enter Time: ");  t = Convert.ToInt32(Console.ReadLine());  }  /// <summary>  /// Caliculate Speed  /// </summary>  /// <returns>Return Speed Value</returns>  public int Speed()  {  int s = 0;  try  {  s = d / t;  }  catch (DivideByZeroException)  {  Console.WriteLine("Time cannot be zero");  }  return s;  }  }  }  Main:  using System;  using Surya;  namespace Subject  {  internal class Program  {  static void Main(string[] args)  {  Chemistry c = new Chemistry();  Mathematics m = new Mathematics();  Physics p = new Physics();  Console.WriteLine("\n\*\*\*\*\*Chemistry\*\*\*\*\*\n");  c.ReadData();  c.Output();  Console.WriteLine("\n\*\*\*\*\*Mathematics\*\*\*\*\*\n");  m.ReadNumber();  Console.WriteLine($"Factorial of {m.input} is {m.GetFact()}");  Console.WriteLine("\n\*\*\*\*\*Physics\*\*\*\*\*\n");  p.ReadData();  Console.WriteLine($"Speed is { p.Speed()}");  Console.ReadLine();  }  }  } |
| Output: |
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| 1. WACP to print multable table of a number |
| Code: |
| using System;  /\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*  \* Author: Surya Teja  \* Purpose: Table  \* \*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*/  namespace TableOOPS  {  class Table  {  int input;  /// <summary>  /// Read User Input  /// </summary>  public void ReadData()  {  Console.Write("Enter Number: ");  input = Convert.ToInt32(Console.ReadLine());  }  /// <summary>  /// Print Table  /// </summary>  public void PrintTable()  {  for (int i = 1; i <= 10; i++)  Console.WriteLine($"{input} \* {i} = {input \* i}");  }  }  internal class Program  {  static void Main(string[] args)  {  Table t = new Table();  t.ReadData();  t.PrintTable();  Console.ReadLine();  }  }  } |
| Output: |
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| 1. WACP to check if the given is number is Palindrome or not |
| Code: |
| using System;  /\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*  \* Author: Surya Teja  \* Purpose: Palindrome  \* \*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*/  namespace PalindromeOOPS  {  class Palindrome  {  int num, rem, temp, sum = 0;  /// <summary>  /// Read User Input  /// </summary>  public void ReadNumber()  {  Console.WriteLine("Enter Number");  num = Convert.ToInt32(Console.ReadLine());  }  /// <summary>  /// Print Palindrome or not  /// </summary>  public void PrintPalindrome()  {  temp = num;  while (num > 0)  {  rem = num % 10;  sum = (sum \* 10) + rem;  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 |
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| 1. Create a solution "MyProject" Add three projects |
| Code: |
| Mathematics:  using System;  /\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*  \* Author: Surya Teja  \* Purpose: Mathematics Library  \* \*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*/  namespace Surya  {  public class Mathematics  {  public int input;  /// <summary>  /// Read data from user  /// </summary>  public void ReadNumber()  {  Console.Write("Enter Number: ");  input = Convert.ToInt32(Console.ReadLine());  }  /// <summary>  /// Factorial logic  /// </summary>  /// <returns>Factorial value</returns>  public int GetFact()  {  int fact = 1;  for (int i = 2; i <= input; i++)  fact = fact \* i;  return fact;  }  }  }  Operations:  using System;  /\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*  \* Author: Surya Teja  \* Purpose: Operations  \* \*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*/  namespace Operations  {  public class Opp1  {  int a, b;  /// <summary>  /// Adding two numbers  /// </summary>  /// <returns>Sum of 2 Numbers</returns>  public int Add(int a, int b)  {  return a + b;  }  /// <summary>  /// Subract Two numbers  /// </summary>  /// <returns>Sub of 2 Numbers</returns>  public int Sub(int a, int b)  {  return a - b;  }  }  }  Clint:  using System;  using Surya;  using Operations;  /\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*  \* Author: Surya Teja  \* Purpose: Clint  \* \*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*/  namespace Clint  {  internal class Program  {  static void Main(string[] args)  {  Mathematics m = new Mathematics();  Opp1 op1 = new Opp1();  Console.WriteLine("\n\*\*\*\*\*Mathematics\*\*\*\*\*\n");  m.ReadNumber();  Console.WriteLine($"Factorial of {m.input} is {m.GetFact()}");  Console.WriteLine("\n\*\*\*\*\*Operations\*\*\*\*\*\n");  Console.WriteLine($"Addition of A and B is {op1.Add(10, 20)}");  Console.WriteLine($"Subraction of A and B is {op1.Sub(20, 10)}");    Console.ReadLine();  }  }  } |
| Output: |
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| 1. Windows Application |
| Code: |
| using System;  using System.Windows.Forms;  using Surya;  namespace ClintApp  {  public partial class Form1 : Form  {  public Form1()  {  InitializeComponent();  }  private void button1\_Click(object sender, EventArgs e)  {  Mathematics m = new Mathematics();  int input = Convert.ToInt32(textBox1.Text);  m.input = input;  int fact = m.GetFact();  textBox2.Text = fact.ToString();  }  }  } |
| Output: |
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| 1. What is the use of partial classes in C# |
| Partial Class: It provides a special ability to implement the functionality of a single class into multiple files and all these files are combined into a single class file when the application is compiled. A partial class is created by using a partial keyword. This keyword is also useful to split the functionality of methods, interfaces, or structure into multiple files. |
| Code: |
| Opp1:  /\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*  \* Author: Surya Teja  \* Purpose: Operations  \* \*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*/  namespace Operations  {  public partial class Opp1  {  int a, b;  /// <summary>  /// Adding two numbers  /// </summary>  /// <returns>Sum of 2 Numbers</returns>  public int Add(int a, int b)  {  return a + b;  }  /// <summary>  /// Subract Two numbers  /// </summary>  /// <returns>Sub of 2 Numbers</returns>  public int Sub(int a, int b)  {  return a - b;  }  }  }  Opp2:  /\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*  \* Author: Surya Teja  \* Purpose: Operations  \* \*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*/  namespace Operations  {  public partial class Opp2  {/// <summary>  /// Multiplaction of Two Numbers  /// </summary>  /// <param name="a"></param>  /// <param name="b"></param>  /// <returns>Mul of 2 Numbers</returns>  public int Mul(int a, int b)  {  return a \* b;  }  /// <summary>  /// Division of Two Numbers  /// </summary>  /// <param name="a"></param>  /// <param name="b"></param>  /// <returns>Div of 2 Numbers</returns>  public int Div(int a, int b)  {  return a / b;  }  }  }  Main:  using System;  using Surya;  using Operations;  /\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*  \* Author: Surya Teja  \* Purpose: Clint  \* \*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*/  namespace Clint  {  internal class Program  {  static void Main(string[] args)  {  Mathematics m = new Mathematics();  Opp1 op1 = new Opp1();  Opp2 op2 = new Opp2();  Console.WriteLine("\n\*\*\*\*\*Mathematics\*\*\*\*\*\n");  m.ReadNumber();  Console.WriteLine($"Factorial of {m.input} is {m.GetFact()}");  Console.WriteLine("\n\*\*\*\*\*Operations\*\*\*\*\*\n");  Console.WriteLine($"Addition of A and B is {op1.Add(20, 10)}");  Console.WriteLine($"Subraction of A and B is {op1.Sub(20, 10)}");  Console.WriteLine($"Multiplation of A and B is {op2.Mul(20, 10)}");  Console.WriteLine($"Divison of A and B is {op2.Div(20, 10)}");  Console.ReadLine();  }  }  } |
| Output: |
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