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| Day-16 Morning Assignment  By  U.Joshna  [14-2-2022] |

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| 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 Day\_16\_Project\_1  {  class HelloWorld  {  public void PrintMessage()  {  Console.WriteLine("Enter Hello World");  }  }    internal class Program  {  static void Main(string[] args)  {  HelloWorld hw= new HelloWorld();  hw.PrintMessage();    }  }  } |
| Output: |
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| 2. WACP to read a number from user and print factorial of it. Hint : Think object oriented |
| Code: |
| using System;    namespace Day\_16\_Project\_2  {  class Factorial  {  int input;    public int ReadInput()  {  Console.Write("\n Enter any Number To Calculate It's Factorial : ");  input = int.Parse(Console.ReadLine());  return input;  }    public int PrintFactorial()  {  int fact = 1;  for (int i = 1; i <= input; i++)  {  fact \*= i;  }  return fact;  }  }    internal class Program  {  static void Main(string[] args)  {  Factorial factorial = new Factorial();  int input = factorial.ReadInput();  Console.WriteLine("\nThe Factorial of {0} is :{1}\n", input, factorial.PrintFactorial());  }  }  } |
| Output: |
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| 3. For the console application created in 2nd task, add screen shot of the .exe file location |
| Output: |
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| 4. Create a Class Library Project with name as  <YourName>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 ) |
| Output: |
| using System;  using System.Collections.Generic;  using System.Linq;  using System.Text;  using System.Threading.Tasks;    namespace JoshnaLibrary  {  public class Mathematics  {  int input;    public int ReadInput()  {  Console.Write("\nEnter any Number To Calculate It's Factorial : ");  input = int.Parse(Console.ReadLine());  return input;  }    public int PrintFactorial()  {  int fact = 1;  for (int i = 1; i <= input; i++)  {  fact \*= i;  }  return fact;  }  }  } |
| Rebuild: |
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| The DLL File is Created in the Path |
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| Copying the DLL File to the Given Desktop |
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| 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;    namespace JoshLibrary  {  public class Mathematics  {  int input;  public void ReadData()  {  Console.WriteLine("Enter any value:");  input = Convert.ToInt32(Console.ReadLine());    }  public int GetFactorial()  {  int fact = 1;  for (int i = 1; i <= input; i++)  fact \*= i;  return fact;  }  }  } |
| b.physics: |
| using System;  namespace JoshLibrary  {  public class Physics  {  public static int FinalVelocity(int u,int a,int t)  {  int finalvelocity = u + a \* t;  Console.WriteLine(finalvelocity);  return finalvelocity;  }  }  } |
| c.Chemistry: |
| using System;  namespace JoshLibrary  {  public class Chemistry  {  public string GetBenzene()  {  return "C6H6";    }  public string GetWater()  {  return "H20";    }  public string Methane()  {  return "CH4";  }  }  } |
| |  | | --- | | Console Aplication: | | using System;  using JoshLibrary;    namespace Day\_16\_Project\_5  {  internal class Program  {  static void Main(string[] args)  {  Mathematics m = new Mathematics();  m.ReadData();  Console.WriteLine(m.GetFactorial());      Console.WriteLine(Physics.FinalVelocity(7, 8, 9));    Chemistry c = new Chemistry();  Console.WriteLine(c.GetBenzene());  Console.WriteLine(c.GetWater());  Console.WriteLine(c.Methane());  Console.ReadLine();  }  }  } | | Output: | |  | |

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| 6. WACP to print multable 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\_6  {  class MultiplicationTable  {  int input;    public int ReadInput()  {  Console.Write("\n Enter any Number To Print its Multiplication Table : ");  input = int.Parse(Console.ReadLine());  Console.WriteLine("\n\n::: Displaying the Multiplication Table for {0} :::\n",  input);  return input;  }    public void PrintMulTable()  {  for (int i = 1; i <= 10; i++)  {    Console.WriteLine("{0} x {1} = {2}", input, i, input \* i);  }  Console.WriteLine();  }    internal class Program  {  static void Main(string[] args)  {    MultiplicationTable table = new MultiplicationTable();  table.ReadInput();  table.PrintMulTable();  Console.ReadKey();  }  }  }  } |
| Output: |
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| 7. 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\_7  {  class Palindrome  {  int input;    public int ReadInput()  {  Console.Write("\nEnter Any Number To Check, If Palindrome Or Not : ");  input = int.Parse(Console.ReadLine());  return input;  }    public bool IsPalindrome()  {  int rev = 0, rem, m;  m = input;  while (m > 0)  {  rem = m % 10;  m = m / 10;  rev = rev \* 10 + rem;  }  if (input == rev)  return true;  else  return false;  }  }    internal class Program  {  static void Main(string[] args)  {  Palindrome palindrome = new Palindrome();  int input = palindrome.ReadInput();    bool isPalindrome = palindrome.IsPalindrome();    if (isPalindrome == true)  Console.WriteLine("\nYes, {0} Is a Palindrome Number", input);  else  Console.WriteLine("\nNo, {0} is Not a Palindrome Number", input);  Console.ReadLine();  }  }  } |
| Output: |
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| 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) Note : If you are confused., see the video |
| a.JoshhLibrary: |
| using System;  namespace JoshhLibrary  {  public class Mathematics  {  public static int Factorial(int n)    {    int fact = 1;    for (int i = 1; i <= n; i++)    fact = fact \* i;    return fact;        }    }  } |
| b.PublicLibrary: |
| using System;  namespace PublicLibrary  {  public class Physiscs  {  public static int FinalVelocity(int u, int a, int t)  {  int finalvelocity = u + a \* t;  Console.WriteLine(finalvelocity);  return finalvelocity;    }  }  } |
| c.Client App: |
| using System;  using JoshhLibrary;  using PublicLibrary;    namespace ClientApp1  {  internal class Program  {  static void Main(string[] args)  {    Mathematics m = new Mathematics();        Console.WriteLine(Mathematics.Factorial(5));        Console.WriteLine(Physiscs.FinalVelocity(7, 8, 9));  }  }  } |
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| 9. Add one more project (windows application) Add some 3 or 4 screen shots just to prove that you have done this. |
| MyWindowsForms3:   |  | | --- | |  | |
| using System;  using System.Windows.Forms3;  using JoshhLibrary;  using PublicLibrary;    namespace MyWindowsForms3  {  public partial class Form1 : Form  {  public Form1()  {  InitializeComponent();  }    private void Form1\_Load(object sender, EventArgs e)  {  int input = int.Parse(textBox1.Text);  int factorial = Mathematics.Factorial(input);  textBox2.Text = factorial.ToString();  }  }  } |
| Output: |
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| 10. Research and write what is the use of partial classesin C# WRITE EXAMPLE CODE AND PUT SCREEN SHOTS |
| Code: |
| Uses of Partial Classes in C#: |
| .A partial class is a special feature of C#. 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 the general purpose of a partial class is to allow the splitting of a class definition across multiple files. |
| Partial Class1: |
| using System;  namespace JoshnaLibrary  {  public class Mathematics  {  public static int Addition(int a, int b)  {  int sum = a + b;  Console.WriteLine(sum);  return sum;  }  public static int Subtraction(int a, int b)  {  int diff = a - b;  Console.WriteLine(diff);  return diff;  }  public static int Multiplication(int a, int b)  {  int mul = a \* b;  Console.WriteLine(mul);  return mul;  }  public static int Division(int a, int b)  {  int div = a / b;  Console.WriteLine(div);  return div;  }  }  } |
| |  | | --- | | Partial Class2: | | using System;  namespace JoshnaLibrary  {  public class Mathematics1  {  public static int Factorial(int input)  {  int fact = 1;  for (int i = 1; i <= input; i++)  {  fact \*= i;  }  return fact;  }  }  } | | Day16Project10: | | using System;  using JoshnaLibrary;      namespace Day16Project10  {  internal class Program  {  static void Main(string[] args)  {  Console.WriteLine("\n Executing Mathematical Operations Using Partial Class \n");    Console.Write("\nAddition of 5 & 6 is : ");  Mathematics.Addition(5, 6);  Console.Write("\nSubtraction of 7 & 3 is : ");  Mathematics.Subtraction(7, 3);  Console.Write("\nMultiplication of 8 & 4 is : ");  Mathematics.Multiplication(8, 4);  Console.Write("\nDivision of 9 / 5 is : ");  Mathematics.Division(9, 5);  Console.WriteLine("\n Factorial of 5 is : {0}", Mathematics1.Factorial(5));  Console.ReadKey();  }  }  } | | Output: | |
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