|  |
| --- |
| Day16 Morning Assignment  By  Anusha Bellala  14-2-2022 |

|  |
| --- |
| 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  {  class Message  {  public static void PrintHello()  {  Console.WriteLine("Hello");  }  }  internal class Program  {  static void Main(string[] args)  {  Message.PrintHello();  Console.ReadLine();  }  }  } |
| Ouput: |

|  |
| --- |
| 2. 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 Day16Project2  {  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());  Console.ReadLine();  }  }  } |
| Output: |

|  |
| --- |
| 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  <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 ) |
| Code: |
| using System;  using System.Collections.Generic;  using System.Linq;  using System.Text;  using System.Threading.Tasks;  namespace AnushaLibrary  {  public 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;  }    }  } |
|  |
|  |

|  |
| --- |
|  |

|  |
| --- |
| 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. |
| **Mathematics.cs:**  using System;  using System.Collections.Generic;  using System.Linq;  using System.Text;  using System.Threading.Tasks;  namespace AnushaLibrary  {  public 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;  }  }    }  **Physics.cs:**  using System;  using System.Collections.Generic;  using System.Linq;  using System.Text;  using System.Threading.Tasks;  namespace AnushaLibrary  {  public class Physics  {    public static int FinalVelocity(int u, int a, int t)  {  int finalVelocity = u + a \* t;  Console.WriteLine(finalVelocity);  return finalVelocity;  }  }  } |
| **Chemistry.cs:**  using System;  using System.Collections.Generic;  using System.Linq;  using System.Text;  using System.Threading.Tasks;  namespace AnushaLibrary  {  public class Chemistry  {  public string GetBenzene()  {  return "C6H6";  }  public string GetWater()  {  return "H2O";  }  public string GetMethane()  {  return "CH4";  }    }    } |
| **Program.cs:**  using System;  using System.Collections.Generic;  using System.Linq;  using System.Text;  using System.Threading.Tasks;  using AnushaLibrary;  namespace Day16Project2  {    internal class Program  {  static void Main(string[] args)  {  Mathematics m=new Mathematics();  m.ReadData();  Console.WriteLine(m.GetFactorial());  Chemistry c = new Chemistry();  Console.WriteLine(c.GetBenzene());  Console.WriteLine(c.GetWater());  Console.WriteLine(c.GetMethane());  Console.WriteLine("Final velocity is:");  Physics.FinalVelocity(2, 3, 4);    Console.ReadLine();  }  }  } |
| Output: |

|  |
| --- |
| 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 Day16Poject3  {  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();  }  }  }  } |
| Ouput: |

|  |
| --- |
| 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 Day16Project4  {  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: |

|  |
| --- |
| 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) |
| **AnushaLibrary:**  using System;  using System.Collections.Generic;  using System.Linq;  using System.Text;  using System.Threading.Tasks;  namespace AnushLibrary  {  public static class Mathematics  {  public static int Factorial(int n)  {  int fact = 1;  for (int i = 1; i <= n; i++)  fact = fact \* i;  return fact;  }  public static int Add(int a, int b)  {  return a + b;  }  public static int Mul(int a, int b)  {  return a \* b;  }      } |
| **PublicLibrary:**  using System;  using System.Collections.Generic;  using System.Linq;  using System.Text;  using System.Threading.Tasks;  namespace PublicLibrary  {  public static class Physics  {  public static int FinalVelocity(int u, int a, int t)  {  return u + a \* t;  }  }  } |
| **ClientApp:**  using System;  using System.Collections.Generic;  using System.Linq;  using System.Text;  using System.Threading.Tasks;  using AnushLibrary;  using PublicLibrary;  namespace ClientApp  {  internal class Program  {  static void Main(string[] args)  {  Console.WriteLine(Mathematics.Factorial(5));  Console.WriteLine(Physics.FinalVelocity(5, 5, 5));  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 AnushLibrary;  using PublicLibrary;  namespace MyWindowsApp1  {  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();  }  }  } |
| Ouput: |

|  |
| --- |
| 10. Research and write what is the use of partial classes in C#  WRITE EXAMPLE CODE AND PUT SCREEN SHOTS |
| **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. |
| **Mathematics1.cs:**  using System;  using System.Collections.Generic;  using System.Linq;  using System.Text;  using System.Threading.Tasks;  namespace AnushaLibrary  {  public static partial class Mathematics1  {  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;  }  }  } |
| **Mathematics2.cs:**  using System;  using System.Collections.Generic;  using System.Linq;  using System.Text;  using System.Threading.Tasks;  namespace AnushaLibrary  {  public static partial class Mathematics2  {  public static int Factorial(int input)  {  int fact = 1;  for (int i = 1; i <= input; i++)  {  fact \*= i;  }  return fact;  }  }  } |
| **Program.cs:**  using System;  using System.Collections.Generic;  using System.Linq;  using System.Text;  using System.Threading.Tasks;  using AnushaLibrary;  namespace Day16Project5  {  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 : ");  Mathematics1.Addition(5, 6);  Console.Write("\nSubtraction of 7 & 3 is : ");  Mathematics1.Subtraction(7, 3);  Console.Write("\nMultiplication of 8 & 4 is : ");  Mathematics1.Multiplication(8, 4);  Console.Write("\nDivision of 9 / 5 is : ");  Mathematics1.Division(9, 5);  Console.WriteLine("\n Factorial of 5 is : {0}", Mathematics2.Factorial(5));  Console.ReadKey();  }  }  } |
| Output: |