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| DAY 16 Assignment  By  Nanam Vaishnavi  14- Feb -2022 |

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| 1. **Write a C# program to write Hello World** |
| **CODE** |
| using System;  using System.Collections.Generic;  using System.Linq;  using System.Text;  using System.Threading.Tasks;  // \*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*  // Author : Nanam Vaishnavi  // purpose : program to print Hello World in Object Oriented way.  // \*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*  namespace Day16Project1  {  class Message  {  public string PrintHi()  {  return "Hello World";  }    }  internal class Program  {  static void Main(string[] args)  {  Message m = new Message();  Console.WriteLine(m.PrintHi());  Console.ReadLine();  }  }  } |
| **OUTPUT** |
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| 1. **Write a C# Program 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\_16Project2  {  class Mathematics  {  int input, fact = 1;  public void ReadData()  {  Console.WriteLine("Enter Number: ");  input = Convert.ToInt32(Console.ReadLine());    }  public int GetFactorial()  {  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** |
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| 1. **For the console application created in 2nd task, add screen shot of the .exe file location.** |
| **OUTPUT** |
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| 1. **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 VaishnaviLibrary  {  internal class Mathematics  {  int input, fact = 1;  /// <summary>  /// Read Data  /// </summary>  public void ReadData()  {  Console.WriteLine("Enter Number: ");  input = Convert.ToInt32(Console.ReadLine());  }  /// <summary>  /// GetFactorial  /// </summary>  /// <returns></returns>  public int GetFactorial()  {  for (int i = 1; i <= input; i++)  fact = fact \* i;  return fact;  }  }  } |
| **OUTPUT** |
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| 1. **Create a class library with three classes in it:**    1. **Mathematics**    2. **Physics**    3. **Chemistry**   **and add methods as discussed in the class.**  **refer all the three classes in a console application.** |
| **CODE** |
| using System;  using System.Collections.Generic;  using System.Linq;  using System.Text;  using System.Threading.Tasks;  using VaishnaviLibrary;  namespace day16Project3  {  internal class Program  {  static void Main(string[] args)  {  Mathematics m = new Mathematics();  m.ReadData();  Console.WriteLine(m.GetFactorial());  Console.WriteLine("==================================");  Physics p = new Physics();  Console.WriteLine(p.FinalVelocity(5,3,1));  Console.WriteLine("==================================");  Chemistry c = new Chemistry();  Console.WriteLine(c.Benzene());  Console.WriteLine(c.Water());  Console.WriteLine("==================================");  Console.ReadLine();    Console.ReadLine();  }  }  } |
| **OUTPUT** |

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| 1. **Write a C# program to print multiplication table of a number** |
| **CODE** |
| using System;  using System.Collections.Generic;  using System.Linq;  using System.Text;  using System.Threading.Tasks;  // \*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*  // Author : Nanam Vaishnavi  // Purpose : Multiplication Table in object oriented way.  // \*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*  namespace Day16Project4  {  class Multable  {  int n;  /// <summary>  /// Read input from user  /// </summary>  public void ReadData()  {  Console.WriteLine("Enter n: ");  n = Convert.ToInt32(Console.ReadLine());  }  /// <summary>  /// GetFactorial  /// </summary>  public void GetMultiplication()  {  for (int i = 1; i <= 10; i++)  {  Console.WriteLine("{0}\*{1}={2}", n, i, n \* i);    }      }  }  internal class Program  {  static void Main(string[] args)  {  Multable mult = new Multable();  mult.ReadData();  mult.GetMultiplication();  Console.ReadLine();      }  }  } |
| **OUTPUT** |
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| 1. **Write a C# Program 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 day16Project5  {  class Palindrome  {  int n, rev, s = 0, temp;  /// <summary>  /// for read data  /// </summary>  public void ReadData()  {  Console.WriteLine("Enter the Number: ");  n = Convert.ToInt32(Console.ReadLine());  }  /// <summary>  /// to find palindrome  /// </summary>  public void GetPalindrome()  {  temp = n;  while (n > 0)  {  rev = n % 10;  s = (s \* 10) + rev;  n = n / 10;  }  if (temp == s)  Console.WriteLine("Palindrome",n);  else  Console.WriteLine("Not Palindrome",n);  }  }  internal class Program  {  static void Main(string[] args)  {  Palindrome p = new Palindrome();  p.ReadData();  p.GetPalindrome();  Console.ReadLine();  }  }  } |
| **OUTPUT** |
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| 1. **Create a solution "MyProject" (as discussed in class)**   **Add three projects**   * 1. **YourNameLibrary (and add any class with methods)**   2. **PublicLibrary (add any class with methods)**   **c. ClientApp (and here refer above two libraries)** |
| **CODE** |
| using System;  using System.Collections.Generic;  using System.Linq;  using System.Text;  using System.Threading.Tasks;  using VaishuLibrary;  using PublicLibrary;  // \*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*  // Author : Nanam Vaishnavi  // Purpose : Create a solution "MyProject" and Adding three projects  // \*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*  namespace ClientApp  {  internal class Program  {  /// <summary>  /// Import 2 Class Libraries  /// </summary>  /// <param name="args"></param>  static void Main(string[] args)  {  Console.WriteLine(Mathematics.Factorial(5));  Console.WriteLine(Physics.FinalVelocity(5,8,2));  Console.ReadLine();  }  }  } |
| **OUTPUT** |
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| 1. **Add one more project (windows application)**   **Add some 3 or 4 screen shots just to prove that you have done this.** |
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| 1. **Research and write what is the use of partial classes in C#**   **WRITE EXAMPLE CODE AND PUT SCREEN SHOTS** |
| 1) With the help of partial classes, multiple developers can work simultaneously in the same class in different files.  2) We can also maintain your application in an efficient manner by compressing large classes into small ones.  3) When we were working with automatically generated code, the code can be added to the class without having to recreate the source file in Visual studio. |