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| **Day-9 assignment**  **By**  **Bhanu Rama Krishna Prakash Jakkamsetti**  **3/2/2022** |

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| 1.Write a CSP to read input from user and print  a. factorial of a number  b. factors of a number  c. check if it is prime or not |
| Code: |
| using System;  using System.Collections.Generic;  using System.Linq;  using System.Text;  using System.Threading.Tasks;  namespace Day9\_project2  {  /\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*  \* Author:Bhanu Rama Krishna Prakash Jakkamsetti  \* Purpose:find factorial,factors and isprime by using methods and object  \* \*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*/  class Mathsoperation  {  private int input;  /// <summary>  /// taking input from console  /// </summary>  public void Readinput()  {  Console.WriteLine("enter number");  input = Convert.ToInt32(Console.ReadLine());  }  /// <summary>  /// finding factorial  /// </summary>  /// <returns>factorial</returns>  public int Factorial()  {  int fact = 1;  for (int i = 1; i <= input; i++)  {  fact = fact \* i;  }  return fact;  }  /// <summary>  /// finding factors  /// </summary>  public void Printfactors()  {  for (int i = 1; i <= input; i++)  {  {  if (input % i == 0)  Console.WriteLine(i);  }  }  }  /// <summary>  /// find the number is prime or not  /// </summary>  /// <returns>isprime</returns>  public bool Isprime()  {  int count = 0;  for (int i = 1; i <= input; i++)  {  if (input % i == 0)  count++;  }  if (count == 2)  return true;  else  return false;  }  }  internal class Program  {  static void Main(string[] args)  {  Mathsoperation obj = new Mathsoperation();  obj.Readinput();  Console.WriteLine(obj.Factorial());  obj.Printfactors();  if (obj.Isprime())  Console.WriteLine("input is prime number");  else  Console.WriteLine("input is not prime number");  Console.ReadLine();  }  }  } |
| Output: |
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| 2.Write CSP to read 2 numbers from use and print  a. sum of two numbers  b. difference of two numbers  c. product of two numbers  d. division of two numbers |
| Code: |
| using System;  using System.Collections.Generic;  using System.Linq;  using System.Text;  using System.Threading.Tasks;  namespace Day9\_project3  {  /\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*  \* Author:Bhanu Rama Krishna Prakash Jakkamsetti  \* Purpose:find sum,difference,product and division by using methods and object  \* \*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*/  class Arthematic  {  private int input1;  private int input2;  /// <summary>  /// taking input from console  /// </summary>  public void Readinput()  {  Console.WriteLine("enter first number");  input1 = Convert.ToInt32(Console.ReadLine());  Console.WriteLine("enter second number");  input2 = Convert.ToInt32(Console.ReadLine());  }/// <summary>  /// add two numbers  /// </summary>  /// <returns>sum</returns>  public int Add()  {  return input1+input2;  }  /// <summary>  /// difference between 2 numbers  /// </summary>  /// <returns>differtence</returns>  public int Difference()  {  return input1 - input2;  }  /// <summary>  /// product of 2 numbers  /// </summary>  /// <returns>product</returns>  public int Product()  {  return input1 \* input2;  }  /// <summary>  /// division of 2 numbers  /// </summary>  /// <returns>division</returns>  public double Division()  {  return (input1 / input2);  }  }  internal class Program  {  static void Main(string[] args)  {  Arthematic a = new Arthematic();  a.Readinput();  Console.WriteLine(a.Add());  Console.WriteLine(a.Difference());  Console.WriteLine(a.Product());  Console.WriteLine(a.Division());  }  }  } |
| Output: |
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| 3.Create an employee class with below variables  Id, name, salary, company  Write methods to read data and print data. |
| Code: |
| using System;  using System.Collections.Generic;  using System.Linq;  using System.Text;  using System.Threading.Tasks;  namespace Day9\_project4  {  /\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*  \* Author:Bhanu Rama Krishna Prakash Jakkamsetti  \* Purpose:create employee class and access the variables by using object  \* \*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*/  class Employee  {  private int id;  private string name;  private int salary;  public static string companyname = "NB healthcare technology";  /// <summary>  /// taking inputs from output  /// </summary>  public void Readdata()  {  Console.WriteLine("enter employee id");  id=Convert.ToInt32(Console.ReadLine());  Console.WriteLine("enter employee name");  name =Console.ReadLine();  Console.WriteLine("enter employee salary");  salary = Convert.ToInt32(Console.ReadLine());  }  /// <summary>  /// print employee data  /// </summary>  public void Printdata()  {  Console.WriteLine($"id={id} , name={name} , salary={salary} , company={companyname}");  }  }  internal class Program  {  static void Main(string[] args)  {  Employee e1 = new Employee();  e1.Readdata();  e1.Printdata();  Employee e2 = new Employee();  e2.Readdata();  e2.Printdata();  Console.ReadLine();  }  }  } |
| Output: |
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4. Research and find the difference between normal variable and static variable.

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| Static variable | Non static variable |
| Static variables can be accessed using class name | Non static variables can be accessed using instance of a class |
| Static variables can be accessed by static and non static methods | Non static variables cannot be accessed inside a static method. |
| Static variables reduce the amount of memory used by a program. | Non static variables do not reduce the amount of memory used by a program |
| Static variables are shared among all instances of a class. | Non static variables are specific to that instance of a class. |
| Static variable is like a global variable and is available to all methods. | Non static variable is like a local variable and they can be accessed through only instance of a class. |

5. Write 5 points discussed about constructor.

1. Constructors is used to initialise class variables. By default, in c# we have one constructor that is called default constructor, which is initialise default values.
2. By default, in c# we have one constructor that is called default constructor, which is initialise default values.
3. The moment you create user defined constructor the default constructor will be gone, if you still need default constructor create a default constructor by our own.
4. Constructor name should be same as class name. If we are using same variables as that of class variables use this keyword to differentiate.

Ex:(thi.id, this.name).

1. For a constructor we should not write any return type not even void just use public or private.

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| 6.Create employee class with two constructors as discussed in the class. |
| Code: |
| using System;  using System.Collections.Generic;  using System.Linq;  using System.Text;  using System.Threading.Tasks;  namespace Day9\_project5  {  /\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*  \* Author:Bhanu Rama Krishna Prakash Jakkamsetti  \* Purpose:create employee class and access by using constructor  \* \*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*/  class Employee  {  private int id;  private string name;  private int salary;  public static string companyname = "NB healthcare technology";  /// <summary>  /// creating zero argument cunstructor  /// </summary>  public Employee()  {  this.id = 0;  this.name = "null";  this.salary = 0;  }  /// <summary>  /// creating argument cunstructor  /// </summary>  /// <param name="id"></param>  /// <param name="name"></param>  /// <param name="salary"></param>  public Employee(int id,string name,int salary)  {  this.id = id;  this.name = name;  this.salary = salary;    }  /// <summary>  /// printing the data  /// </summary>  public void Printdata()  {  Console.WriteLine($"id={id} , name={name} , salary={salary} , campanyname={companyname}");  }  }  internal class Program  {  static void Main(string[] args)  {  Employee e1 = new Employee();  e1.Printdata();  Employee e2 = new Employee(1, "bhanu" , 1000);  e2.Printdata();  Console.ReadLine();  }  }  } |
| Output: |
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