DAY 9 MORNING ASSIGNMENT

BY K. SANJAY

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| 1. Write a C# program to read input from user and print  a. factorial of a number  b. factors of a number  c. check if it prime or not |
| Code |
| using System;  using System.Collections.Generic;  using System.Linq;  using System.Text;  using System.Threading.Tasks;  namespace Day\_9\_mng\_assignment\_project2  {  class MathsProblems  {  public int input;  public void ReadInput()  {  Console.WriteLine("Enter number:");  input = Convert.ToInt32(Console.ReadLine());  }  public void Factorial()  {  int fact = 1;  for(int i = 1; i < input; i++)  {  fact = fact \* i;  }  Console.WriteLine(fact);  }  public void PrintFactors()  {  for (int i = 1; i < input; i++)  {  if(input%i==0)  Console.WriteLine(i);  }  }  public bool IsPrime()  {  int count = 0;  for (int i = 1; i < count; i++)  {  if(input %i==0)  count++;  }  if(count==0)  return true;  else  return false;  }  }  internal class Program  {  static void Main(string[] args)  {  MathsProblems obj = new MathsProblems();  obj.ReadInput();  obj.Factorial();  obj.PrintFactors();  if (obj.IsPrime())  Console.WriteLine(" Input is prime number");  else  Console.WriteLine("Input is not a prime number");  Console.ReadLine();  }  }  } |
| Output |
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| 2. Write C# program to read two 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 Day\_9\_mng\_assignment\_project2  {  class OperationsTask  {  private int a;  private int b;  public void ReadInput()  {  Console.WriteLine("Enter first Number:");  a=Convert.ToInt32(Console.ReadLine());  Console.WriteLine("Enter second Number:");  b=Convert.ToInt32(Console.ReadLine());  }  public int AddNumbers()  {  return a+b;  }  public int DifferenceNumbers()  {  return a - b;  }  public int ProductNumbers()  {  return a \* b;  }  public int DivisionNumbers()  {  return a / b;  }  }  internal class Program  {  static void Main(string[] args)  {  OperationsTask ot = new OperationsTask();  ot.ReadInput();  Console.WriteLine(ot.AddNumbers());  Console.WriteLine(ot.DifferenceNumbers());  Console.WriteLine(ot.ProductNumbers());  Console.WriteLine(ot.DivisionNumbers());  Console.ReadLine();  }  }  } |
| 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 Day\_9\_mng\_assignment\_project2  {  class Employee  {  public int id;  public string name;  public int salary;  public string company;  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());  company = "Nation Benfits";  }  public void PrintData()  {  Console.WriteLine($"Id = {id}, Name = {name}, Salary = {salary}, Company = {company}");  }  }  internal class Program  {  static void Main(string[] args)  {  Employee emp1 = new Employee();  emp1.ReadData();  emp1.PrintData();  Employee emp2 = new Employee();  emp2.ReadData();  emp2.PrintData();    Console.ReadLine();  }  }  } |
| Output |
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| 4. Research and find the difference between normal variable and static variable. |

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| Normal Variable | Static Variable |
| These variable are created when the block in entered or the function is called  The scope of these variables exists only within the block  Initialisation of Instance Variable is not Mandatory. | We can create static variables at class-level only  The scope of these variables exists within the class  Initialisation of Instance Variable is Mandatory. |

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| 5. Write 5 points discussed about constructor |
| 1. A constructors is used toinitialize class variables while creating objects.. |
| 1. By default, C# has one constructor i.e., Default constructor to initialize default values.   Employee emp = new Employee() |
| 1. If user create user-defined constructor the default constructor will disappear. |
| 1. Constructor name should be same as class name. If we use same variables as class variable use this. Keyword to differentiate class variable. |
| 1. For a constructor, there should not be any return type not even void.   Eg : Public Employee(int id, string name) |

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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 Day\_9\_mng\_assignment\_project2  {  class Employee  {    public int id;  public string name;  public int salary;  public static string company = "NationsBenefits";  public Employee()  {  this.id = 0;  this.name = null;  }  public Employee(int eid, string ename, int esalary)  {  id = eid;  name = ename;  salary = esalary;  }  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());  company = "NationsBenifts";  }  public void PrintData()  {  Console.WriteLine($"Id:{id}, Name:{name}, Salary:{salary}, Company={company}");  }  }  internal class Program  {  static void Main(string[] args)  {  Employee emp = new Employee(1, "John", 5000);  emp.PrintData();  Console.ReadLine();  }  }  } |
| Output |
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