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| Day 9 assignment  by Ramakrishna |

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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 Project\_\_1  {  class mathsoperations  {  private 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 < input;i++)  {  if(input%i==0)  count++;  }  if(count==2)  return true;  else  return false;  }  }    internal class Program  {  static void Main(string[] args)  {  mathsoperations obj = new mathsoperations();  obj.ReadInput();  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. 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 customer\_class  {  class Employee  {  public int id;  public String name;  public int salary;  public static string company = "nationsbenfits";  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());  }  public void PrintData()  {  Console.WriteLine($"Id ={id},Name={name},Salary={salary},company={"nationsbenfits"}");  }  }  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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| 3 . 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 customer\_class  {  class Employee  {  public int id;  public String name;  public int salary;  public static string company = "nationsbenfits";  public Employee()  {  this.id=0;  this.name=null;  this.salary=0;  }  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());  }  public void PrintData()  {  Console.WriteLine($"Id ={id},Name={name},Salary={salary},company={"nationsbenfits"}");  }  }  internal class Program  {  static void Main(string[] args)  {  Employee emp = new Employee(2,"ramakrishna",8000);  emp.PrintData();  Console.ReadLine();  }  }  } |
| Output: |

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| 4 . Write 5 points discussed about constructor |
| * A constructors is used to initialize class variables. * By default, C# has one constructor i.e., Default constructor to initialize class variables. * If user create user-defined constructor the default constructor will disappear. * Constructor name should be same as class name. If we use same variables as class variable use this. Keyword to differentiate class variable. * For a constructor, there should not be any return type not even void. * Eg : Public Employee(int id, string name) |

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| Research and find the difference between normal variable and static variable. |
| * A static variable acts as a **global variable** and is shared among all the objects of the class. A non-static variables are specific to instance object in which they are created. Static variables occupies less space and memory allocation happens once |

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| 6. Write C# program to read two numbers from use and print  a. sum of two numbers |
| Code: using System;  using System.Collections.Generic;  using System.Linq;  using System.Text;  using System.Threading.Tasks;  namespace sum\_of\_two\_numbers  {  class mathaddition  {  private int a;  private int b;  public void ReadInput()  {  Console.WriteLine("Enter a number");  a =Convert.ToInt32(Console.ReadLine());  Console.WriteLine("Enter b number");  b =Convert.ToInt32(Console.ReadLine());  }  public int addnumbers()  {  return a + b;  }  internal class Program  {  static void Main(string[] args)  {  mathaddition mt = new mathaddition();  mt.ReadInput();  Console.WriteLine(mt.addnumbers());  Console.ReadLine();  }  }  }  } |
| Output: |

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| b. difference of two numbers |
| Code: using System;  using System.Collections.Generic;  using System.Linq;  using System.Text;  using System.Threading.Tasks;  namespace sum\_of\_two\_numbers  {  class mathasubraction  {  private int a;  private int b;  public void ReadInput()  {  Console.WriteLine("Enter a number");  a =Convert.ToInt32(Console.ReadLine());  Console.WriteLine("Enter b number");  b =Convert.ToInt32(Console.ReadLine());  }  public int subractionnumbers()  {  return a - b;  }  internal class Program  {  static void Main(string[] args)  {  mathasubraction mt = new mathasubraction();  mt.ReadInput();  Console.WriteLine(mt.subractionnumbers());  Console.ReadLine();  }  }  }  } |
| Output: |

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| c. product of two numbers |
| Code: using System;  using System.Collections.Generic;  using System.Linq;  using System.Text;  using System.Threading.Tasks;  namespace product  {  class mathaproduct  {  private int a;  private int b;  public void ReadInput()  {  Console.WriteLine("Enter a number");  a =Convert.ToInt32(Console.ReadLine());  Console.WriteLine("Enter b number");  b =Convert.ToInt32(Console.ReadLine());  }  public int productnumbers()  {  return a\*b;  }  internal class Program  {  static void Main(string[] args)  {  mathaproduct mt = new mathaproduct();  mt.ReadInput();  Console.WriteLine(mt.productnumbers());  Console.ReadLine();  }  }  }  } |
| Output: |

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| d. division of two numbers |
| Code: using System;  using System.Collections.Generic;  using System.Linq;  using System.Text;  using System.Threading.Tasks;  namespace division  {  class mathadivision  {  private int a;  private int b;  public void ReadInput()  {  Console.WriteLine("Enter a number");  a =Convert.ToInt32(Console.ReadLine());  Console.WriteLine("Enter b number");  b =Convert.ToInt32(Console.ReadLine());  }  public int divisionnumbers()  {  return a/b;  }  internal class Program  {  static void Main(string[] args)  {  mathadivision mt = new mathadivision();  mt.ReadInput();  Console.WriteLine(mt.divisionnumbers());  Console.ReadLine();  }  }  }  } |
| Output: |