

<p style="text-align: center;">DAY9 MORNING ASSIGNMENT BY CH. PAVAN KUMAR REDDY(03-02-2022)</p>
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<p>PROJECT: 1</p>

<p>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</p>
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<p>CODE:</p>

<pre>using System; namespace MathProblems { /// <summary> /// DONE BY: PAVAN /// </summary> class MathProblems { private int input; ///<summary> ///USER INPUT// ///<summary> public void ReadData() { Console.WriteLine("enter a number"); input = Convert.ToInt32(Console.ReadLine()); } ///<summary> ///FIND FACTORIAL // ///<summary> public void Factorial() { int fact = 1; for (int i = 0; i < input; i++) fact = fact * i; Console.WriteLine(\$"Factors of {input} is {fact}"); } ///<summary> ///Find Factors// ///<summary> public void Factors() { Console.WriteLine(\$"Factors of {input} "); } } }</pre>

```

        for (int i = 0; i < input; i++)
        {
            if (input % 1 == 0)
                Console.WriteLine($"{i}");
        }

        ///<summary>
        ///Find Prime OR Not
        /// </summary>

    }
    public void Prime()
    {
        int i;
        for (i = 2; i <= input; i++)

        {
            if (input % i == 0)
                break;
        }
        if (i == input)
            Console.WriteLine($"{input} is Prime");
        else
            Console.WriteLine($"{input} is not a Prime number");
    }
    internal class Program
    {
        static void Main(string[] args)
        {
            MathProblems p = new MathProblems();
            p.ReadData();
            p.Factorial();
            p.Factors();
            p.Prime();
            Console.ReadLine();
        }
    }
}

```

OUTPUT:

```
enter a number
2
Factors of 2 is 0
Factors of 2
0
1
2 is Prime
```

PROJECT: 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;

// Author: PAVAN
// Purpose: Create a Class to Read Two inputs and print Sum, Difference, Product & Division.

namespace Day9Project2
{
    class MathsOps
    {
        private int a, b;
        private int temp;

        public void ReadData()
        {
            Console.WriteLine("\nEnter Any two inputs to perform all Arithmetic Operations: \n");
            Console.Write("Enter a Value: ");
            a = Convert.ToInt32(Console.ReadLine());
            Console.Write("\nEnter b Value: ");
            b = Convert.ToInt32(Console.ReadLine());
        }
        /// <summary>
        /// Sum Of Two Numbers///
        /// </summary>
        public void Addition()
        {
            temp = a + b;
            Console.WriteLine($"the Sum of Numbers {a} + {b} is: {temp}");
        }
        /// <summary>
        /// Difference of Two Numbers///
    }
}
```

```

    /// </summary>
    public void Difference()
    {
        temp = a - b;
        Console.WriteLine($"The Difference of Numbers {a} - {b} is: {temp}");
    }
    /// <summary>
    /// Product of Two Numbers///
    /// </summary>
    public void Product()
    {
        temp = a * b;
        Console.WriteLine($"The Product of Numbers {a} * {b} is: {temp}");
    }
    /// <summary>
    /// Division of Two Numbers///
    /// </summary>
    public void Division()
    {
        temp = a / b;
        Console.WriteLine($"The Division Of Numbers {a} / {b} is: {temp}");
    }
}
internal class Program
{
    static void Main(string[] args)
    {
        MathsOps d = new MathsOps();
        d.ReadData();
        d.Addition();
        d.Difference();
        d.Product();
        d.Division();
        Console.WriteLine("*****-THE END-*****");

        Console.ReadLine();
    }
}

```

OUTPUT:

```

Enter Any two inputs to perform all Arithametic Operations :

Enter a Value : 4

Enter b Value : 64

The Sum Of Numbers 4 + 64 is : 68

The Difference Of Numbers 4 - 64 is : -60
The Product Of Numbers 4 * 64 is : 256
The Division Of Numbers 4 / 64 is : 0
*****-THE END-*****

```

PROJECT: 3

Create an employee class with below variable 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;

// Author: PAVAN
//Purpose: Create an Employee Class with 4 variables, USE A SINGLE STATIC VOID//

namespace Day9Project3
{
    class Employee
    {
        public int id;
        public string name;
        public int salary;
        public static string company = "NATIONSBEEFITS";

        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: {company}");
    }
}
internal class Program
{
    static void Main(string[] args)
    {
        Employee emp1 = new Employee();
        Employee emp2 = new Employee();

        // READDATA
        emp1.ReadData();
        emp2.ReadData();

        Console.WriteLine(" Print Employee Data ");
        // PRINTDATA
        emp1.PrintData();
        emp2.PrintData();

        Console.ReadLine();
    }
}

```

OUTPUT:

```

Enter Employee ID : 112233
Enter Employee Name : PAVAN
Enter Employee Salary : 20000
Enter Employee ID : 223344
Enter Employee Name : MANOJ
Enter Employee Salary : 20000
Print Employee Data
Id : 112233, Name : PAVAN, Salary : 20000, Company : NATIONSBEFITS
Id : 223344, Name : MANOJ, Salary : 20000, Company : NATIONSBEFITS

```

Q4). Research and find the difference between normal variable and static variable.

NORMAL VARIABLE	STATIC VARIABLE
1) It can be accessed using Instance of a class	1) It can be accessed using class name.
2) It cannot be accessed by inside a static method.	2) It can be accessed by both static and normal variables.
3) It doesn't remove or reduce the used memory	3) It reduces the unwanted memory stored in it.

4) These are Local variables used in same instance of class.

4) These are Global variables used in all instances.

Q5). Write 5 points discussed about constructor

- 1) A constructor is used to initialize class variables while creating an object.
- 2) By default, we have default constructor, declared inside a class, with default values.
- 3) When we create our own constructor, the default constructor will disappear or be deleted.
- 4) In case we are using the same variables as for class variables we have to use **THIS**. Command to differentiate class variables.
- 5) For a constructor we are not going to use any kind of written type. And constructor name should be same as our class name.

PROJECT: 6

Create Employee class with two constructors as discussed in the class

CODE:

```
using System;

// Author: PAVAN
//Purpose: Create an Employee Class with, TWO CONSTRUCTORS and READ AND PRINT DATA//

namespace Day9Project4
{
    internal class Program
    {
        class Employee
        {
            public int id;
            public string name;
            public int salary;
            public static string company = "NATIONSBENEFITS";

            /// <summary>
            /// Default Constructor
            /// </summary>
            public Employee()
            {
                this.id = 0;
                this.name = null;
                this.salary = 0;
            }
        }
    }
}
```

```

/// <summary>
/// This is a Constructor with Values of
/// </summary>

public Employee(int eid, string ename, int esalary)
{
    this.id = eid;
    this.name = ename;
    this.salary = esalary;
}

public void ReadData()
{
    Console.Write("Enter Employee ID: ");
    id = Convert.ToInt32(Console.ReadLine());
    Console.Write("Enter Employee Name: ");
    name = Console.ReadLine();
    Console.Write("Enter Employee Salary: ");
    salary = Convert.ToInt32(Console.ReadLine());
}

public void PrintData()
{
    Console.WriteLine($" Id: {id}, Name: {name}, Salary: {salary}, Company: {company}");
}

}

static void Main(string[] args)
{
    Employee emp1 = new Employee();
    Employee emp2 = new Employee(2508, "PAVAN", 45678);

    // ReadData
    Console.WriteLine("***** ////with default constructor***** ////");
    emp1.ReadData();
    Console.WriteLine("Print Employee data using Default Constructor");
    emp1.PrintData();

    // PrintData
    Console.WriteLine("***** with constructor*****");
    Console.WriteLine("Print Employee Data Using Constructor");
    emp2.PrintData();

    Console.ReadLine();
}
}
}

```


OUTPUT:

```
*****////with default constructor*****////  
Enter Employee ID : 12345  
Enter Employee Name : KUMAR  
Enter Employee Salary : 54321  
Print Employee data using Default Constructor  
Id : 12345, Name : KUMAR, Salary : 54321, Company : NATIONSBENEFITS  
**** with constructor*****  
Print Employee Data Using Constructor  
Id : 2508, Name : PAVAN, Salary : 45678, Company : NATIONSBENEFITS  
-
```