DAY 9 MORNING ASSIGNMENT(3-02-2022)

- BY SARATH KASIMSETTY

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;
//sarath kasimsetty
//Write a C# program to read input from user and print
//a.factorial of a number b. factors of a numberc. check if it prime or not
namespace Day9MoningProject
{
    internal class MathsOperations
    {
        private int input;

        public void Readinput()
        {
            Console.WriteLine("enter any 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 Factors()
        {
            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 mat = new MathsOperations();
            mat.Readinput();
            Console.WriteLine("*********factorial of input********");
            mat.Factorial();
            Console.WriteLine("*********factors of input********");
            mat.Factors();
            Console.WriteLine("*********Prime or Not Prime of input********");
            mat.Isprime();
            if (mat.Isprime())
                Console.WriteLine("input is Prime Number ");
            else
                Console.WriteLine("input is not prime number");

            Console.ReadLine();
        }
    }
}
```

OUTPUT:

```
enter any number :
7
*********factorial of input********
5040
*********factors of input********
1
7
*********Prime or Not Prime of input********
input is Prime Number
```

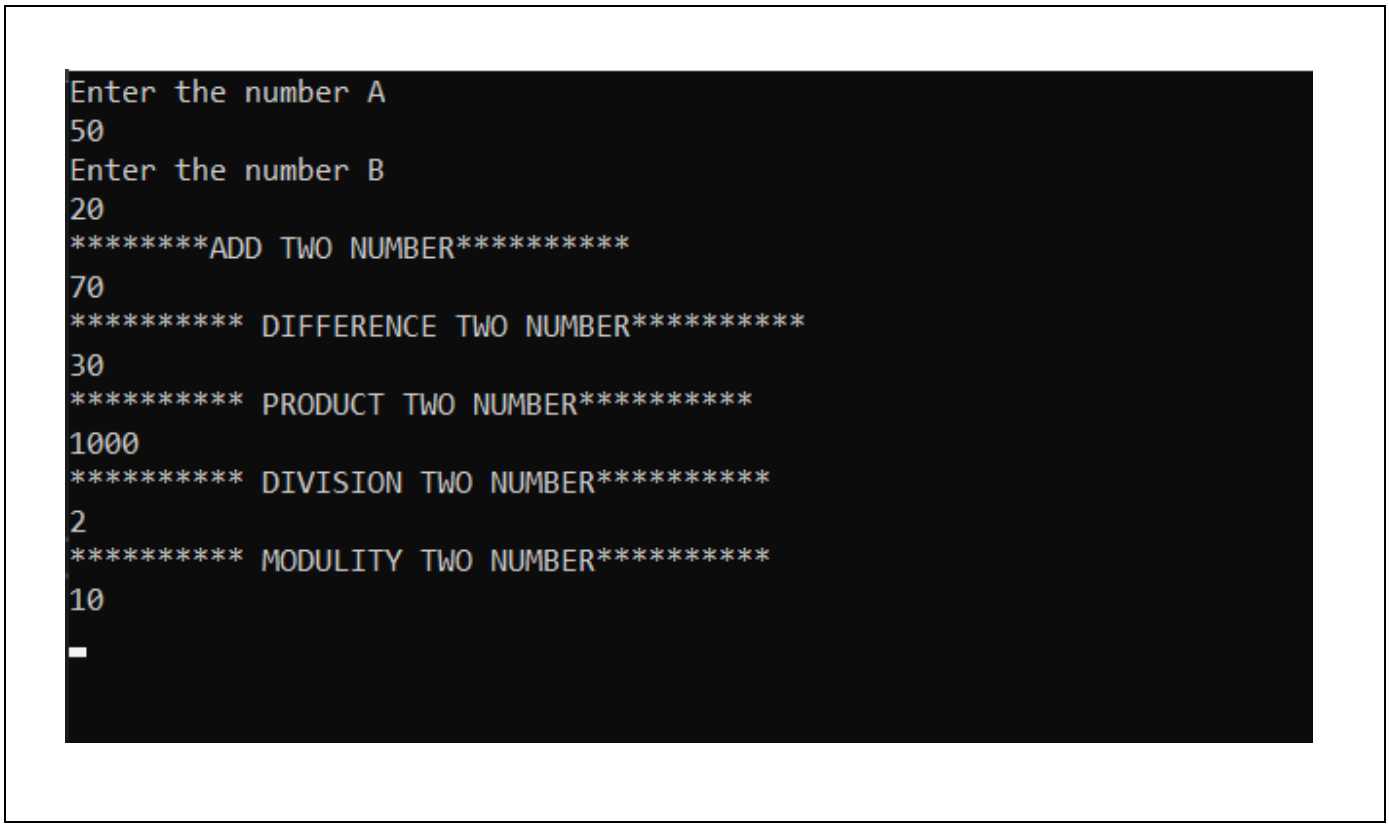
2) Write C# program to read two numbers from use and print
a. sum of two numbers b. difference of two numbers
c. product of two numbers d. division of two numbers.

CODE:

```
using System;
using System.Collections.Generic;
using System.Linq;
using System.Text;
using System.Threading.Tasks;
//sarath kasimsetty
//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.

namespace Day9Morningproject2
{
    internal class Mathstasks
    {
        private int a;
        private int b;

        /// <summary>
        /// /read input from user
        /// </summary>
       public void Readinput()
        {
            Console.WriteLine("Enter the number A");
            a = Convert.ToInt32(Console.ReadLine());

            Console.WriteLine("Enter the number B");
            b = Convert.ToInt32(Console.ReadLine());
        }
        /// <summary>
        /// Adding two numbers of inputs
        /// </summary>
        /// <returns>Addnumber()</returns>
        public int Addnumber()
        {
            return a + b;
        }
        /// <summary>
        /// difference of two numbers
        /// </summary>
        /// <returns></returns>
        public int Differencenumber()
        {
            return a - b;
        }

        public int Producttwonumber()
        {
            return a * b;
        }
```

```
        public float Divisiontwonumber()
        {
            return a / b;
        }

        public int Modulitytwonumber()
        {
            return a % b;
        }
    }
    internal class Program
    {
        static void Main(string[] args)
        {
                Mathstasks ans = new Mathstasks();

                ans.Readinput();

            Console.WriteLine("********ADD TWO NUMBER**********");
                Console.WriteLine(ans.Addnumber());

            Console.WriteLine("********** DIFFERENCE TWO NUMBER**********");
                Console.WriteLine(ans.Differencenumber());

            Console.WriteLine("********** PRODUCT TWO NUMBER**********");
            Console.WriteLine(ans.Producttwonumber());

            Console.WriteLine("********** DIVISION TWO NUMBER**********");
            Console.WriteLine(ans.Divisiontwonumber());

            Console.WriteLine("********** MODULITY TWO NUMBER**********");
            Console.WriteLine(ans.Modulitytwonumber());

                Console.ReadLine();
        }
    }
}
```

OUTPUT:


Enter the number A
50
Enter the number B
20
********ADD TWO NUMBER**********
70
********** DIFFERENCE TWO NUMBER**********
30
********** PRODUCT TWO NUMBER**********
1000
********** DIVISION TWO NUMBER**********
2
********** MODULITY TWO NUMBER**********
10

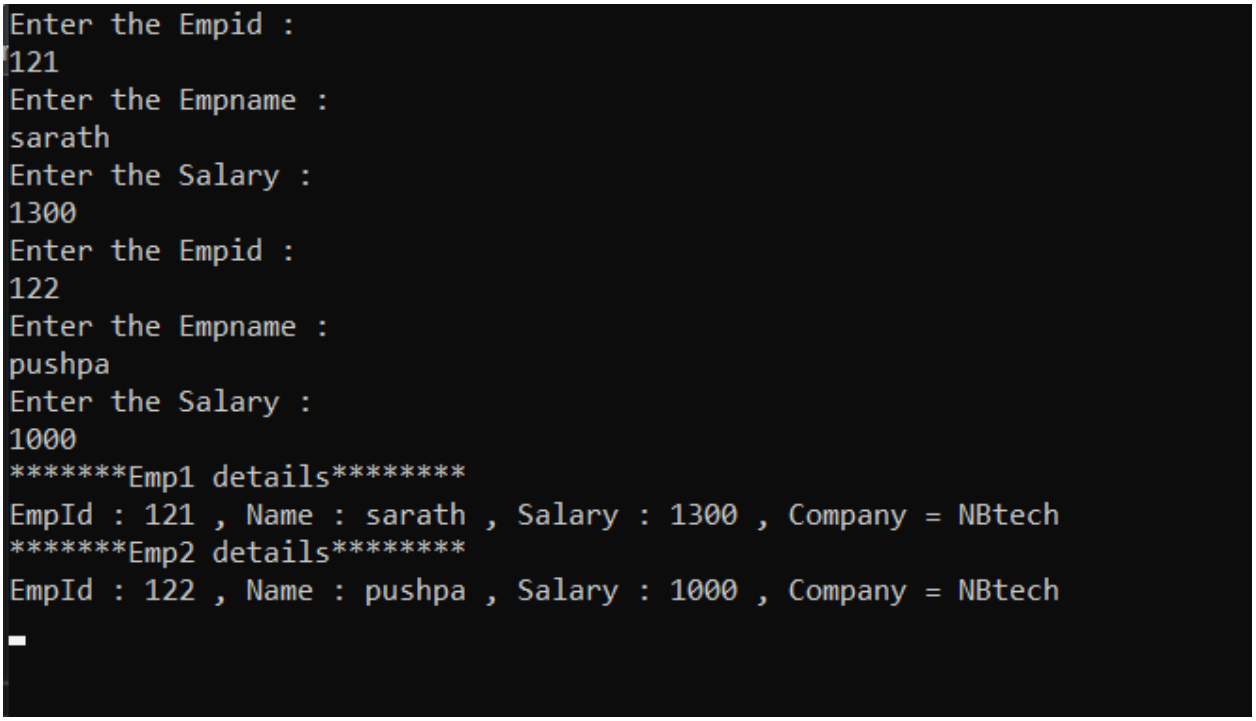
3) Create an employee class with below variables id, name, salary, company
Write methods to read data and print data.

CODE:

```
using System;
using System.Collections.Generic;
using System.Linq;
using System.Text;
using System.Threading.Tasks;
//sarath kasimsetty
//Create an employee class with below variables id, name, salary, company
 //write methods to read data and print data.

namespace Day9MorningProject3
{
    internal class Employee
    {
        private int Id;
        private string Name;
        private int Salary;
        /// <summary>
        /// Company is common for all employees
        /// </summary>
        private static string Company = "NBtech";
        /// <summary>
        /// Read input from user to employees object
        /// </summary>
        public void Readinput()
        {
            Console.WriteLine("Enter the Empid :");
            Id =Convert.ToInt32(Console.ReadLine());

            Console.WriteLine("Enter the Empname :");
            Name = Console.ReadLine();

            Console.WriteLine("Enter the Salary :");
            Salary = Convert.ToInt32(Console.ReadLine());
        }
        /// <summary>
        /// Print the employees details for the user inputs
        /// </summary>
        public void Printinput()
        {
            Console.WriteLine("EmpId : {0} , Name : {1} , Salary : {2} , Company =
{3}",Id,Name,Salary,Company);
        }
    }
    internal class Program
    {
        static void Main(string[] args)
        {
            Employee emp1 = new Employee();
            Employee emp2 = new Employee();

            emp1.Readinput();
```

```
            emp2.Readinput();

            Console.WriteLine("*******Emp1 details********");
            emp1.Printinput();

            Console.WriteLine("*******Emp2 details********");
            emp2.Printinput();

            Console.ReadLine();

        }
    }
}
```

OUTPUT:



4) 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. 2) It cannot be accessed by inside a static method. 3) It doesn't remove or reduce the used memory. 4) These are Local variables used in same instance of class.	1) It can be accessed using class name. 2) It can be accessed by both static and normal variables. 3) It reduces the unwanted memory stored in it. 4) These are Global variables used in all instances.

5) 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.

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;
//sarath kasimsetty
//Create Employee class with two constructors as discussed in the class.

namespace Day9MorningProject6
{
    internal class Program
    {
         internal 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, "sarath", 12345);

            // 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: