
Assignment No. 01

Name of Student: Rupesh Ramesh Desai

Roll No.:

Class: B.Sc III

Date: / /

Signature:

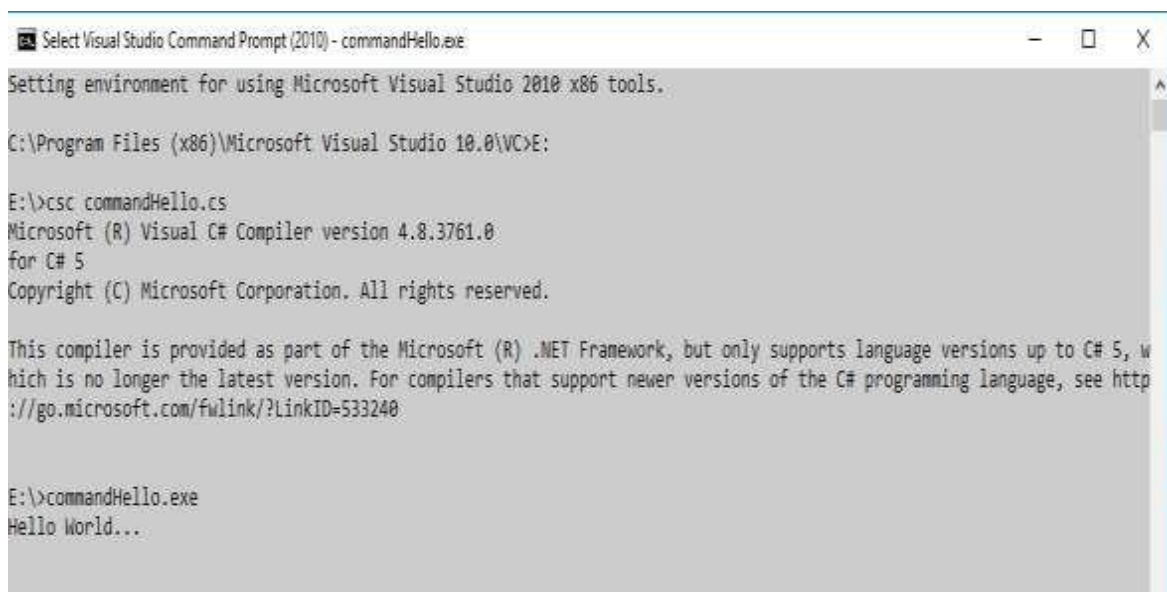
Q. Write a C# program that print hello world using command line argument.

Program:

```
using System;
using System.Collections.Generic;
using System.Linq;
using System.Text;

namespace Command
{
    class Program3
    {
        static void Main(string[] args)
        {
            Console.WriteLine("Hello World...");
            Console.ReadLine();
        }
    }
}
```

*******OUTPUT*******



The screenshot shows a Windows Command Prompt window titled "Select Visual Studio Command Prompt (2010) - commandHello.exe". The window displays the following text:

```
Setting environment for using Microsoft Visual Studio 2010 x86 tools.

C:\Program Files (x86)\Microsoft Visual Studio 10.0\VC>E:

E:\>csc commandHello.cs
Microsoft (R) Visual C# Compiler version 4.8.3761.0
for C# 5
Copyright (C) Microsoft Corporation. All rights reserved.

This compiler is provided as part of the Microsoft (R) .NET Framework, but only supports language versions up to C# 5, which is no longer the latest version. For compilers that support newer versions of the C# programming language, see http://go.microsoft.com/fwlink/?LinkID=533240

E:\>commandHello.exe
Hello World...
```



```

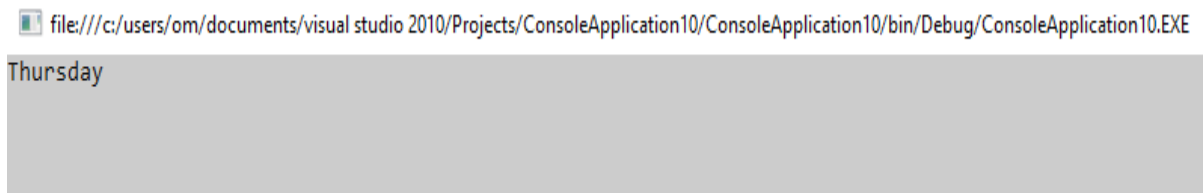
        case 5:
            Console.WriteLine("Friday");
            break;

        case 6:
            Console.WriteLine("Saturday");
            break;

        case 7:
            Console.WriteLine("Sunday");
            break;
    }
    Console.ReadLine();
}
}
}

```

*******OUTPUT*******



The screenshot shows a Windows command prompt window with the title bar "file:///c:/users/om/documents/visual studio 2010/Projects/ConsoleApplication10/ConsoleApplication10/bin/Debug/ConsoleApplication10.EXE". The console output displays the word "Thursday" on a single line.

B) Looping

1) For loop

Program:

```

using System;
using System.Collections.Generic;
using System.Linq;
using System.Text;

namespace ForLoop
{
    class Program
    {
        static void Main(string[] args)
        {

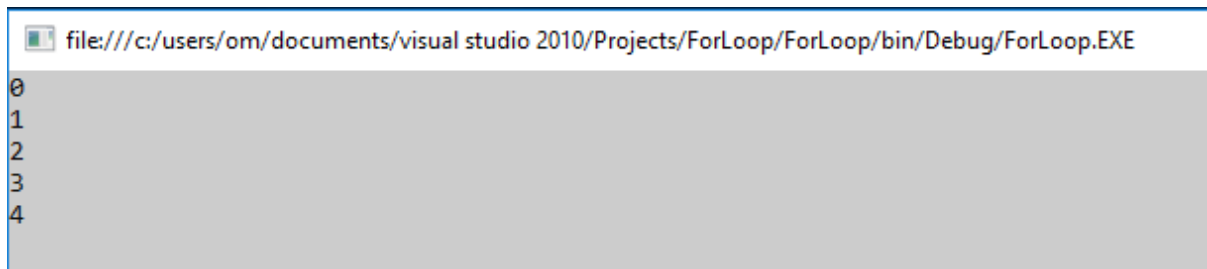
```

```

        for (int i = 0; i < 5; i++)
        {
            Console.WriteLine(i);
        }
        Console.ReadLine();
    }
}

```

*****OUTPUT*****



2) While Loop

Program:

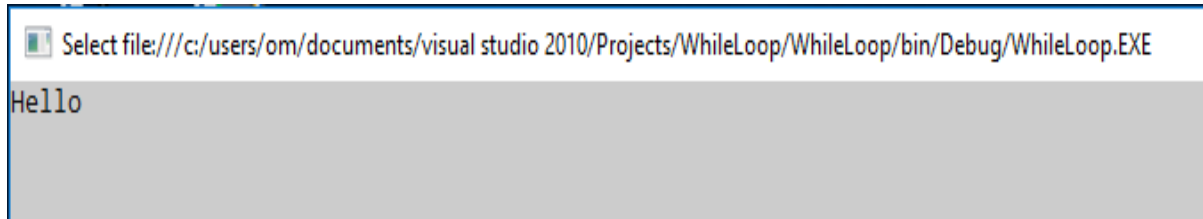
```

using System;
using System.Collections.Generic;
using System.Linq;
using System.Text;

namespace WhileLoop
{
    class Program
    {
        static void Main(string[] args)
        {
            int i = 4;
            while (i <= 4)
            {
                Console.WriteLine("Hello");
                i++;
            }
            Console.ReadLine();
        }
    }
}

```

*****OUTPUT*****



3) do - while Loop

Program:

```
using System;
using System.Collections.Generic;
using System.Linq;
using System.Text;

namespace doWhileLoop.cs
{
    class Program
    {
        static void Main(string[] args)
        {
            int x = 21;
            do
            {
                Console.WriteLine("Hello");
                x++;
            }
            while (x < 20);
            Console.ReadLine();
        }
    }
}
```

*****OUTPUT*****

Select file:///c:/users/om/documents/visual studio 2010/Projects/doWhileLoop.cs/doWhileLoop.cs/bin/Debug/doWhileLoop.cs.EXE

Hello

C) Branching

1)if-statement

Program:

```
using System;
using System.Collections.Generic;
using System.Linq;
using System.Text;

namespace ConsoleApplication6
{
    class Program
    {
        static void Main(string[] args)
        {
            int a;
            a = 1;
            if (a == 1)
            {
                Console.WriteLine("Hello c#");
            }
            Console.ReadLine();
        }
    }
}
```

*******OUTPUT*******

file:///c:/users/om/documents/visual studio 2010/Projects/ifstatement/ifstatement/bin/Debug/ifstatement.EXE

Hello c#

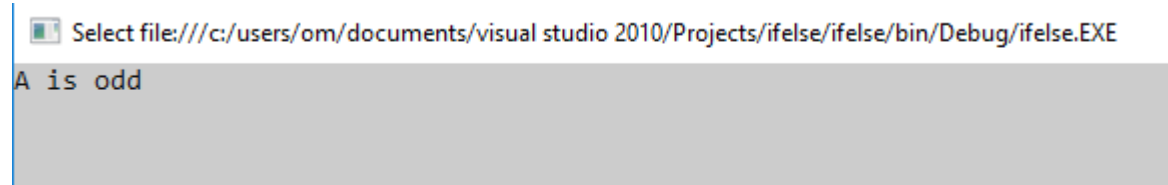
2) if-else statement

Program:

```
using System;
using System.Collections.Generic;
using System.Linq;
using System.Text;

namespace ConsoleApplication8
{
    class Program
    {
        static void Main(string[] args)
        {
            int a = 45;
            if (a % 2 == 0)
            {
                Console.WriteLine("A is even");
            }
            else
            {
                Console.WriteLine("A is odd");
            }
            Console.ReadLine();
        }
    }
}
```

*****OUTPUT*****



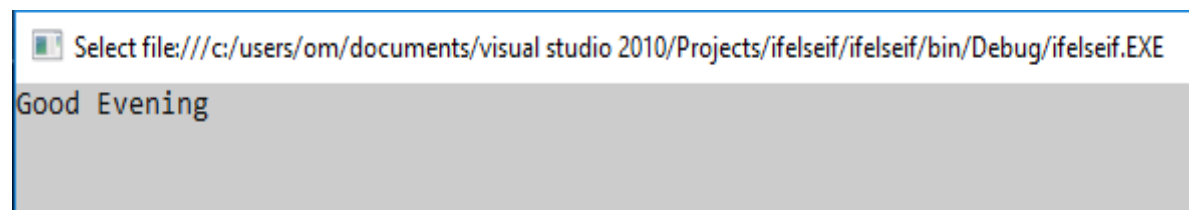
3) if else if statement

Program:

```
using System;
using System.Collections.Generic;
using System.Linq;
using System.Text;

namespace ifelseif
{
    class Program
    {
        static void Main(string[] args)
        {
            int time = 22;
            if (time < 10)
            {
                Console.WriteLine("Good Morning");
            }
            else if (time < 20)
            {
                Console.WriteLine("Good Day");
            }
            else
            {
                Console.WriteLine("Good Evening");
            }
            Console.ReadLine();
        }
    }
}
```

*****OUTPUT*****



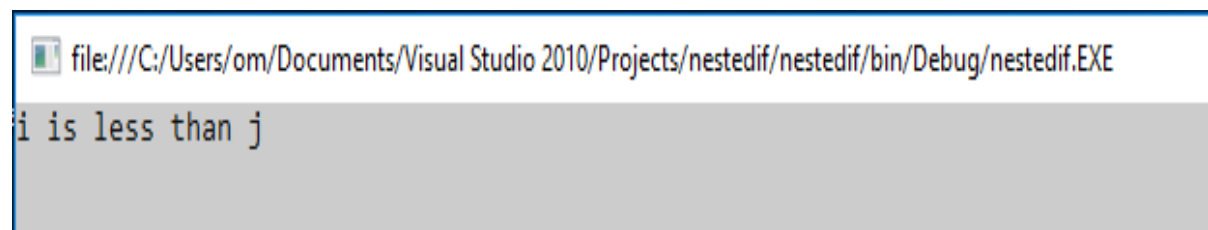
4) Nested if statement

Programs:

```
using System;
using System.Collections.Generic;
using System.Linq;
using System.Text;

namespace nestedif
{
    class Program
    {
        static void Main(string[] args)
        {
            int i = 10, j = 20;
            if (i != j)
            {
                if (i < j)
                {
                    Console.WriteLine("i is less than j");
                }
                else if (i > j)
                {
                    Console.WriteLine("i is greater than j");
                }
            }
            else
            {
                Console.WriteLine("i is equal to j");
            }
            Console.ReadLine();
        }
    }
}
```

*****OUTPUT*****



Assignment No. 03

Name of Student: Rupesh Ramesh Desai

Roll No.:

Class: B.Sc III

Date: / /

Signature:

Q. Write a console application for swapping of 2 numbers using Pass by value.

Program:

```
using System;
using System.Collections.Generic;
using System.Linq;
using System.Text;

namespace PassbyValue
{
    class Program
    {
        static void Main(string[] args)
        {
            int a = 10;
            int b = 20;
            pass_by_value(a, b);
            Console.ReadLine();
        }
        static void pass_by_value(int x, int y)
        {
            int a, b, temp;
            Console.WriteLine("value before swapping");
            a = x;
            b = y;
            Console.WriteLine("A:" + a);
            Console.WriteLine("B:" + b);
            Console.WriteLine("value after swapping");
            temp = a;
            a = b;
            b = temp;
            Console.WriteLine("A:" + a);
            Console.WriteLine("B:" + b);
        }
    }
}
```

*****OUTPUT*****

```
file:///C:/Users/om/Documents/Visual Studio 2010/Projects/PassbyValue/PassbyValue/bin/Debug/PassbyValue.EXE
value before swapping
A:10
B:20
value after swapping
A:20
B:10
```

Assignment No. 04

Name of Student: Rupesh Ramesh Desai

Roll No.:

Class: B.Sc III

Date: / /

Signature:

Q. Write a console application for swapping of 2 numbers using pass by reference.

Program:

```
using System;
using System.Collections.Generic;
using System.Linq;
using System.Text;

namespace PassbyReference
{
    class Program
    {
        static void Main(string[] args)
        {
            int a = 10;
            int b = 20;
            pass_by_reference(ref a, ref b);
            Console.ReadLine();
        }
        static void pass_by_reference(ref int x, ref int y)
        {
            int a, b, temp;
            Console.WriteLine("value before swapping");
            a = x;
            b = y;
            Console.WriteLine("A:" + a);
            Console.WriteLine("B:" + b);
            Console.WriteLine("value after swapping");
            temp = a;
            a = b;
            b = temp;
            Console.WriteLine("A:" + a);
            Console.WriteLine("B:" + b);
        }
    }
}
```

*******OUTPUT*******

```
Select file:///C:/Users/om/Documents/Visual Studio 2010/Projects/PassbyReference/PassbyReference/bin/Debug/PassbyReference.EXE
value before swapping
A:10
B:20
value after swapping
A:20
B:10
```

Assignment No. 05

Name of Student: Rupesh Ramesh Desai

Roll No.:

Class: B.Sc III

Date: / /

Signature:

Q. Write a C# program that uses explicit keyword.

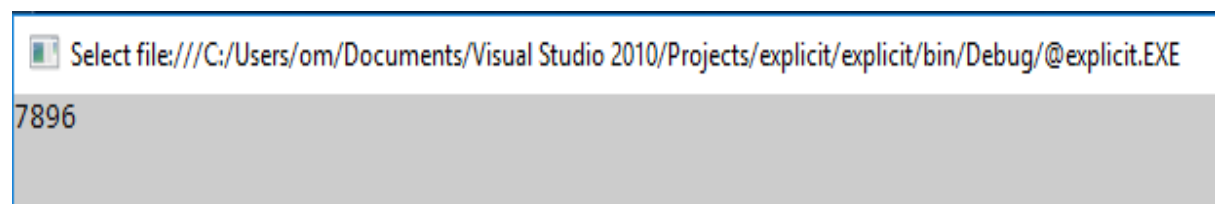
Program:

```
using System;
using System.Collections.Generic;
using System.Linq;
using System.Text;

namespace Assignment5
{
    class ProgramExplicit
    {
        static void Main(string[] args)
        {
            double db = 7896.45;
            int xy;

            xy = (int)db;
            Console.WriteLine(xy);
            Console.ReadKey();
        }
    }
}
```

*******OUTPUT*******



Assignment No. 06

Name of Student: Rupesh Ramesh Desai

Roll No.:

Class: B.Sc III

Date: / /

Signature:

Q. Write a C# program that uses implicit keyword.

Program:

```
using System;
using System.Collections.Generic;
using System.Linq;
using System.Text;

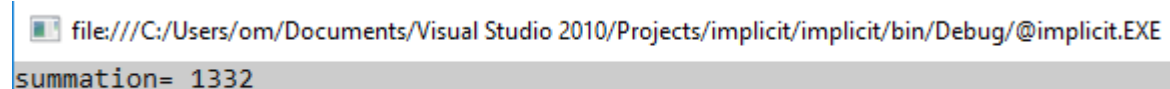
namespace Assignment6
{
    class ProgramImplicit
    {
        static void Main(string[] args)
        {
            int value1 = 567;
            int value2 = 765;
            long summation;

            summation = value1 + value2;

            Console.WriteLine("summation= " + summation);

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

*******OUTPUT*******



```
file:///C:/Users/om/Documents/Visual Studio 2010/Projects/implicit/implicit/bin/Debug/@implicit.EXE
summation= 1332
```

Assignment No. 07

Name of Student: Rupesh Ramesh Desai

Roll No.:

Class: B.Sc III

Date: / /

Signature:

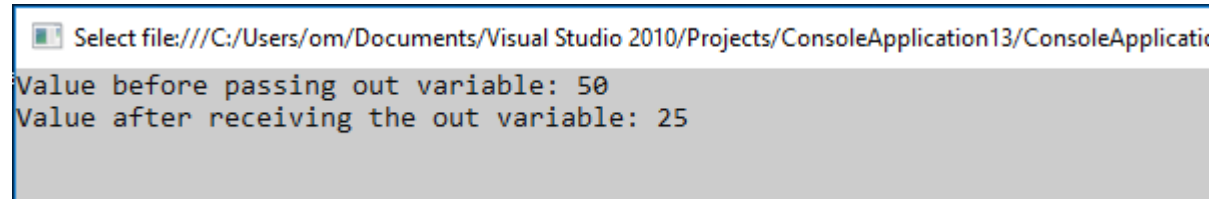
Q. Write a C# program to implement out parameter.

Program:

```
using System;
using System.Collections.Generic;
using System.Linq;
using System.Text;

namespace Assignment7
{
    class Program
    {
        public void show(out int val)
        {
            int square = 5;
            val = square;
            val *= val;
        }
        static void Main(string[] args)
        {
            int val = 50;
            Program program = new Program();
            Console.WriteLine("Value before passing out variable: " + val);
            program.show(out val);
            Console.WriteLine("Value after receiving the out variable: " + val);
            Console.ReadLine();
        }
    }
}
```


*****OUTPUT*****



```
Select file:///C:/Users/om/Documents/Visual Studio 2010/Projects/ConsoleApplication13/ConsoleApplicati
Value before passing out variable: 50
Value after receiving the out variable: 25
```

Assignment No. 08

Name of Student: Rupesh Ramesh Desai

Roll No.:

Class: B.Sc III

Date: / /

Signature:

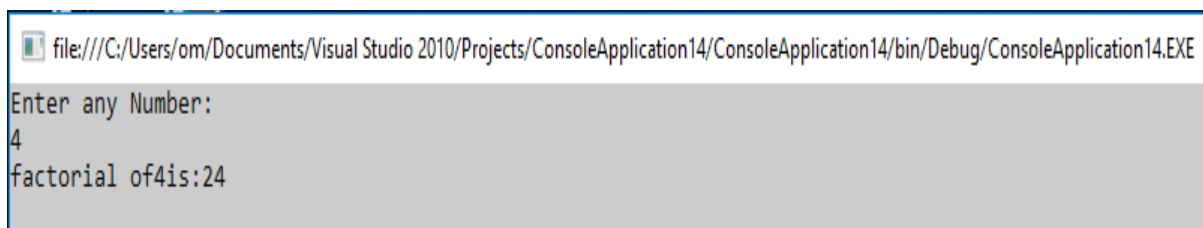
Q. Write C# program to display factorial of number.

Program:

```
using System;
using System.Collections.Generic;
using System.Linq;
using System.Text;

namespace Assignment8
{
    class Factorial
    {
        static void Main(string[] args)
        {
            int i, fact = 1, number;
            Console.WriteLine("Enter any Number:");
            number = int.Parse(Console.ReadLine());
            for (i = 1; i <= number; i++)
            {
                fact = fact * i;
            }
            Console.WriteLine("factorial of" + number + "is:" + fact);
            Console.ReadLine();
        }
    }
}
```

*******OUTPUT*******



```
file:///C:/Users/om/Documents/Visual Studio 2010/Projects/ConsoleApplication14/ConsoleApplication14/bin/Debug/ConsoleApplication14.EXE
Enter any Number:
4
factorial of 4 is: 24
```

Assignment No. 09

Name of Student: Rupesh Ramesh Desai

Roll No.:

Class: B.Sc III

Date: / /

Signature:

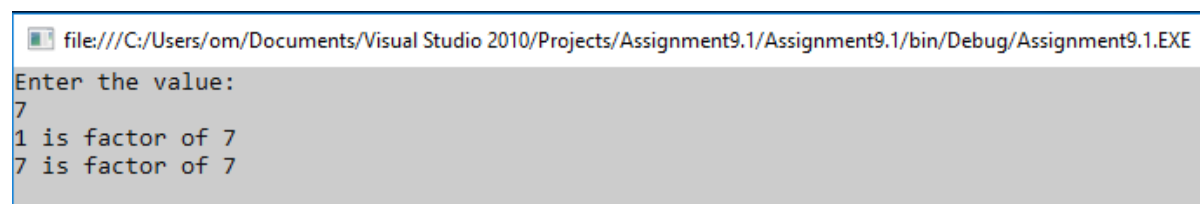
Q. Write a C# program to display prime factors of entered number.

Program:

```
using System;
using System.Collections.Generic;
using System.Linq;
using System.Text;

namespace Assignment9
{
    class Program
    {
        static void Main(string[] args)
        {
            int a, b;
            Console.WriteLine("Enter the value:");
            a = int.Parse(Console.ReadLine());
            for (b = 1; b <= a; b++)
            {
                if (a % b == 0)
                {
                    Console.WriteLine(b + " is factor of " + a);
                }
            }
            Console.ReadLine();
        }
    }
}
```

*******OUTPUT*******



```
file:///C:/Users/om/Documents/Visual Studio 2010/Projects/Assignment9.1/Assignment9.1/bin/Debug/Assignment9.1.EXE
Enter the value:
7
1 is factor of 7
7 is factor of 7
```

Assignment No. 10

Name of Student: Rupesh Ramesh Desai

Roll No.:

Class: B.Sc III

Date: / /

Signature:


Q. Write C# program check entered number is even or odd.

Program:

```
using System;
using System.Collections.Generic;
using System.Linq;
using System.Text;

namespace ConsoleApplication4
{
    class Program
    {
        static void Main(string[] args)
        {
            {
                int n;
                Console.Write("Enter an integer:");
                n = Int32.Parse(Console.ReadLine());
                if (n % 2 == 0)
                {
                    Console.WriteLine("{0} is even", n);
                }
                else
                {
                    Console.WriteLine("{0} is odd", n);
                }
                Console.ReadKey();
            }
        }
    }
}
```

*******OUTPUT*******

 file:///C:/Users/om/Documents/Visual Studio 2010/Projects/ConsoleApplication14/ConsoleApplication14/bin/Debug/ConsoleApplication14.EXE

```
Enter an integer:45  
45 is odd
```

Assignment No. 11

Name of Student: Rupesh Ramesh Desai

Roll No.:

Class: B.Sc III

Date: / /

Signature:

Q. Write C# program to demonstrate array.

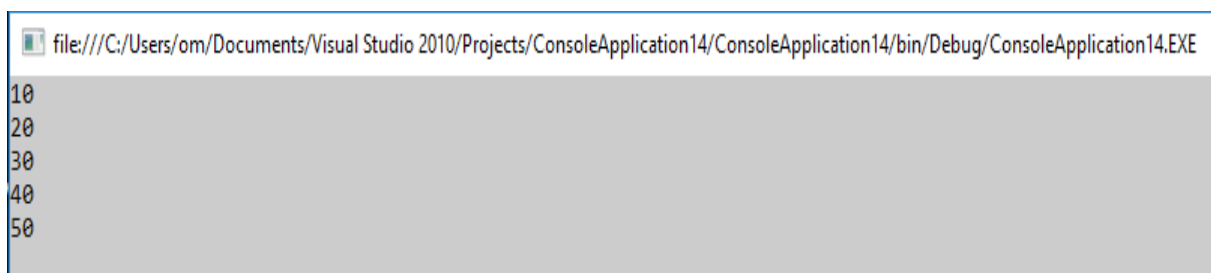
Program:

```
using System;
using System.Collections.Generic;
using System.Linq;
using System.Text;

namespace Assignment11
{
    class ProgramArray
    {
        static void Main(string[] args)
        {
            int[] arr = { 10, 20, 30, 40, 50 };

            for (int i = 0; i < arr.Length; i++)
            {
                Console.WriteLine(arr[i]);
            }
            Console.ReadLine();
        }
    }
}
```

*******OUTPUT*******



The screenshot shows a Windows file explorer window with the path: file:///C:/Users/om/Documents/Visual Studio 2010/Projects/ConsoleApplication14/ConsoleApplication14/bin/Debug/ConsoleApplication14.EXE. Below the path, the output of the program is displayed in a console window, showing the numbers 10, 20, 30, 40, and 50 on separate lines.

Assignment No. 12

Name of Student: Rupesh Ramesh Desai

Roll No.:

Class: B.Sc III

Date: / /

Signature:

Q. Write DLL and implement in another console application.

Program:

```
using System;
using System.Collections.Generic;
using System.Linq;
using System.Text;
using snehaldll;

namespace snehaldll
{
    public class Class1
    {
        public int sum(int n1, int n2)
        {
            return n1 + n2;
        }
    }
}
```

*******OUTPUT*******

The screenshot shows a Windows Forms application window titled "Form1". The window contains three text boxes labeled "N1", "N2", and "sum" stacked vertically. Below them is a button labeled "SUM". The window has standard Windows controls (minimize, maximize, close) in the title bar. The background is light gray.

```

using System;
using System.Collections.Generic;
using System.ComponentModel;
using System.Data;
using System.Drawing;
using System.Linq;
using System.Text;
using System.Windows.Forms;
using snehaldll;

namespace addtwonumbersusingdlls1
{
    public partial class Form1 : Form
    {
        public Form1()
        {
            InitializeComponent();

            private void button1_Click(object sender, EventArgs e)
            {
                int n1, n2;

                n1 = Convert.ToInt32(textBox1.Text);
                n2 = Convert.ToInt32(textBox2.Text);
                snehaldll.Class1 obj = new snehaldll.Class1();
                textBox3.Text = (obj.sum(n1, n2).ToString());
            }
        }
    }
}

```

*****OUTPUT*****

The screenshot shows a Windows application window titled "Form1". Inside the window, there are three text boxes arranged vertically. The first text box is labeled "N1" and contains the number "34". The second text box is labeled "N2" and contains the number "12". The third text box is labeled "sum" and contains the number "46". Below these text boxes, there is a button labeled "SUM". The window has a standard Windows title bar with minimize, maximize, and close buttons.

Assignment No. 13

Name of Student: Rupesh Ramesh Desai

Roll No.:

Class: B.Sc III

Date: / /

Signature:

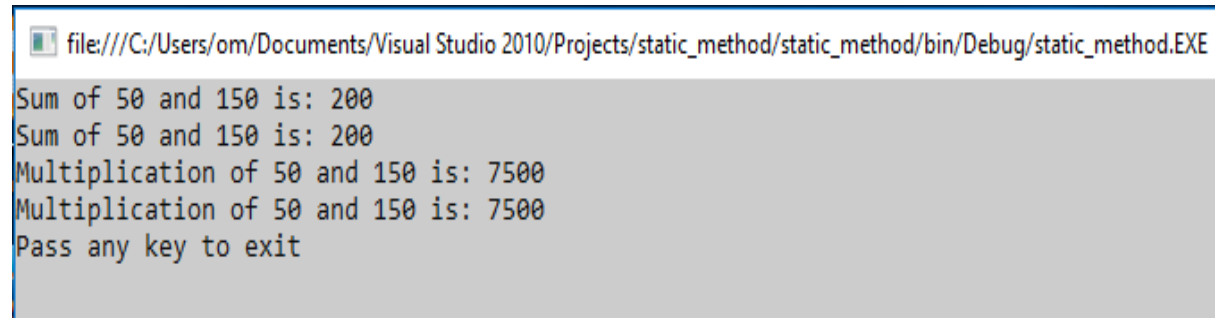
Q. Write a C# program to demonstrate static and non-static methods.

Program:

```
using System;
using System.Collections.Generic;
using System.Linq;
using System.Text;

namespace static_method
{
    class Program
    {
        int x = 50;
        static int y = 150;
        static void Add()
        {
            Program obj = new Program();
            Console.WriteLine("Sum of 50 and 150 is: " + (obj.x + y));
        }
        void mul()
        {
            Console.WriteLine("Multiplication of 50 and 150 is: " + (this.x * Program.y));
            Console.WriteLine("Multiplication of 50 and 150 is: " + (x * y));
        }
        static void Main(string[] args)
        {
            Program.Add();
            Add();
            Program obj = new Program();
            obj.mul();
            Console.WriteLine("Pass any key to exit");
            Console.ReadLine();
        }
    }
}
```

*******OUTPUT*******



```
file:///C:/Users/om/Documents/Visual Studio 2010/Projects/static_method/static_method/bin/Debug/static_method.EXE
Sum of 50 and 150 is: 200
Sum of 50 and 150 is: 200
Multiplication of 50 and 150 is: 7500
Multiplication of 50 and 150 is: 7500
Pass any key to exit
```

Assignment No. 14

Name of Student: Rupesh Ramesh Desai

Roll No.:

Class: B.Sc III

Date: / /

Signature:

Q. Write C# program to demonstrate Interitance.

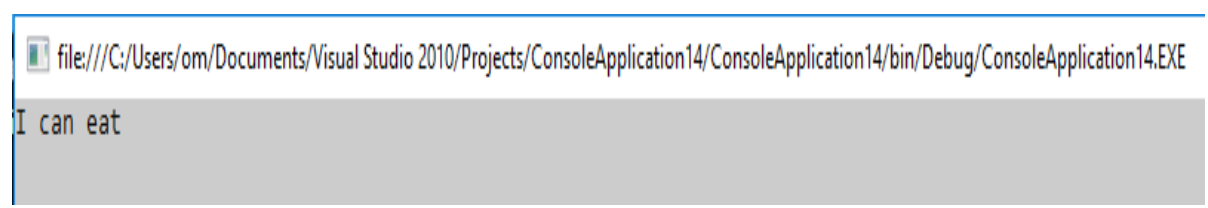
Program:

```
using System;
using System.Collections.Generic;
using System.Linq;
using System.Text;

namespace Assignment14
{
    class Animal
    {
        protected void eat()
        {
            Console.WriteLine("I can eat");
        }
    }

    class Dog : Animal
    {
        static void Main(string[] args)
        {
            Dog labrador = new Dog();
            labrador.eat();
            Console.ReadLine();
        }
    }
}
```

*******OUTPUT*******



Assignment No. 15

Name of Student: Rupesh Ramesh Desai

Roll No.:

Class: B.Sc III

Date: / /

Signature:

Q. Write C# program to demonstrate Interface.

Program:

```
using System;
using System.Collections.Generic;
using System.Linq;
using System.Text;

namespace Interface
{
    interface inter1
    {
        void display();
    }
    class TestClass : inter1
    {
        public void display()
        {
            Console.WriteLine("Rupesh Ramesh Desai");
        }
    }
    class Program
    {
        static void Main(string[] args)
        {
            TestClass obj = new TestClass();
            obj.display();
            Console.ReadLine();
        }
    }
}
```

*****OUTPUT*****

 Select file:///E:/Rups C#/ConsoleApplication3/ConsoleApplication3/bin/Debug/ConsoleApplication3.EXE

Rupesh Ramesh Desai

Assignment No. 16

Name of Student: Rupesh Ramesh Desai

Roll No.:

Class: B.Sc III

Date: / /

Signature:

Q. Write C# program to demonstrate abstract class.

Program:

```
using System;
using System.Collections.Generic;
using System.Linq;
using System.Text;

namespace Assignment16
{
    abstract class AreaClass
    {
        abstract public int Area();
    }
    class Square : AreaClass
    {
        int side = 0;
        public Square(int n)
        {
            side = n;
        }
        public override int Area()
        {
            return side * side;
        }
    }
    class Program
    {
        static void Main(string[] args)
        {
            Square s = new Square(6);
            Console.WriteLine("Area=" + s.Area());
            Console.ReadLine();
        }
    }
}
```

*******OUTPUT*******

 file:///C:/Users/om/Documents/Visual Studio 2010/Projects/ConsoleApplication14/ConsoleApplication14/bin/Debug/ConsoleApplication14.EXE

Area=36
