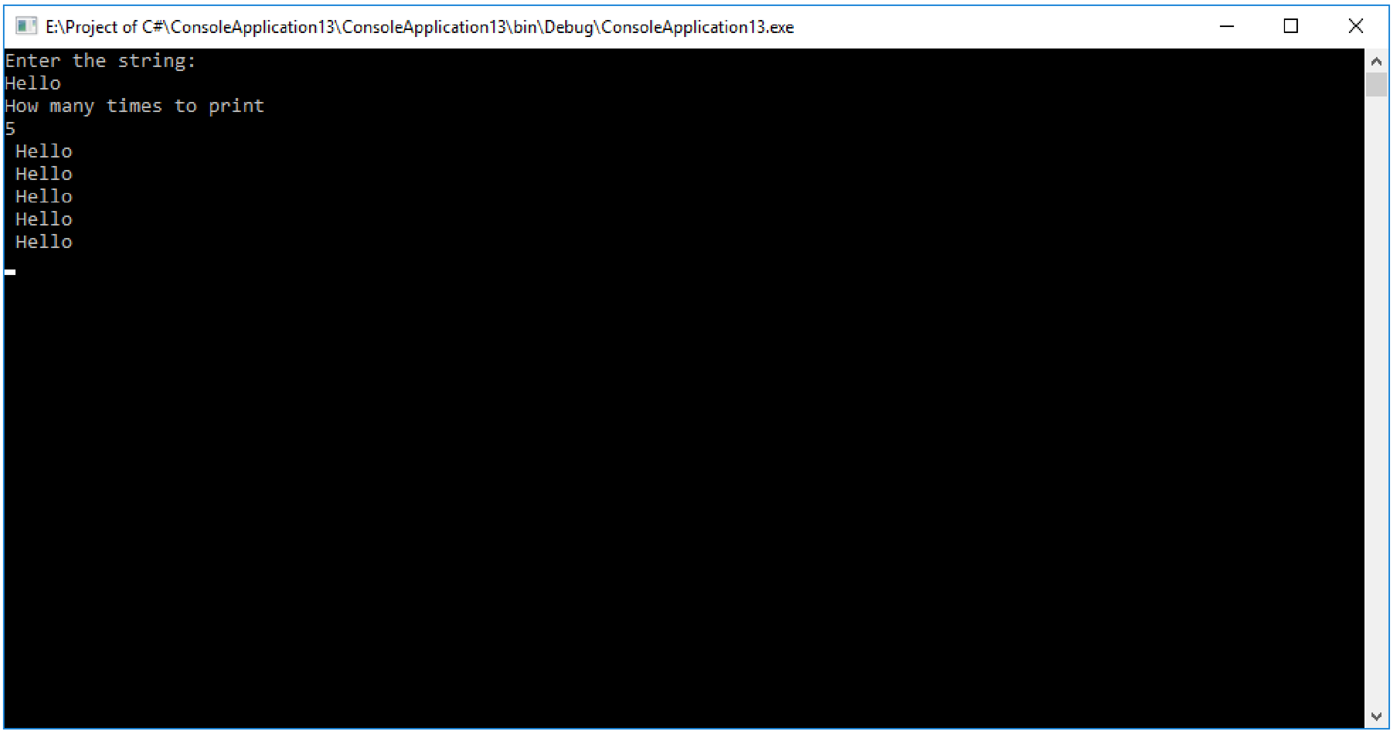
```
------------------------------------------------------------------------
Assignment 1: Write a program to print given string in number of times.
Steps:
1.Start visual Studio 2008.
2.Create a Console file:-File->New->Project->Console Application.
------------------------------------------------------------------------
```

```
Class String
{
Static void Main(string[] args)
{
int i,j;
Console.WriteLine("Enter the string: ");
string s1 = Console.ReadLine();
Console.WriteLine("How many times to print");
j = Convert.ToInt32(Console.ReadLine());
for (i = 1; i<=j ;i++)
{
Console.WriteLine(" " + s1);
}
Console.ReadKey();
}
}
}
```

Output:



E:\Project of C#\ConsoleApplication13\ConsoleApplication13\bin\Debug\ConsoleApplication13.exe

```
Enter the string:
Hello
How many times to print
5
 Hello
 Hello
 Hello
 Hello
 Hello
```

```
-------------------------------------------------------------------------
Assignment 2: Write a program to show use of different operators.
-------------------------------------------------------------------------
Steps:
1.Start visual Studio 2008.
2.Create a Console file:-File->New->Project->Console Application.
-------------------------------------------------------------------------
```

a) Arithmetic Operator

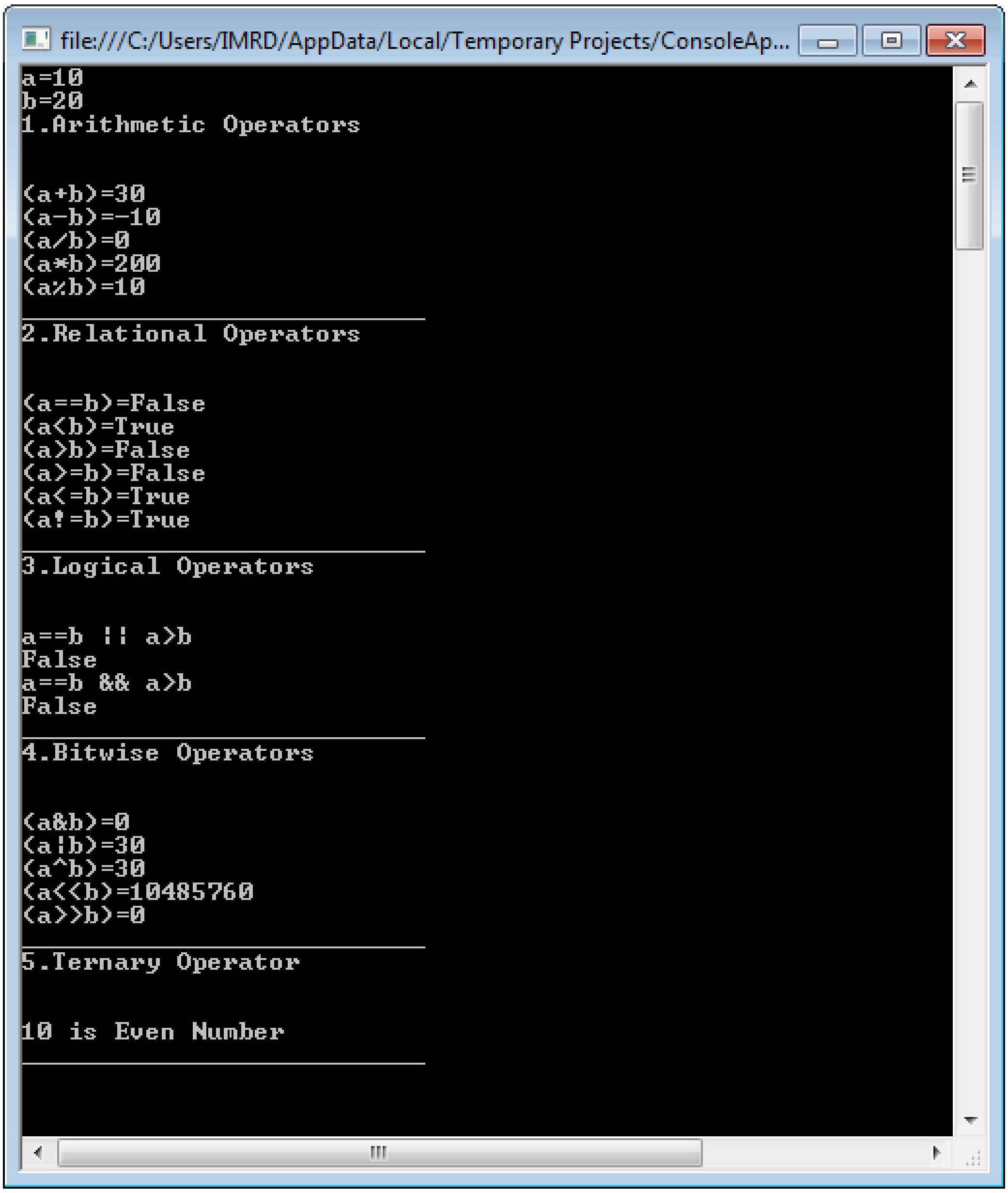
```
Class Program
{
Static void Main(string[] args)
{
int a, b, c;
Console.WriteLine("----------Arithmetic Operator----------");
Console.WriteLine("Enter the 1st Number: ");
            a = Convert.ToInt32(Console.ReadLine());
Console.WriteLine("Enter the 2nd Number: ");
            b = Convert.ToInt32(Console.ReadLine());
Console.WriteLine("----------ArithematicOperaction are----------");
            c = a + b;
Console.WriteLine("Addition is: " + c);
            c = a - b;
Console.WriteLine("Substraction is: " + c);
            c = a * b;
Console.WriteLine("Multiplication is: " + c);
            c = a / b;
Console.WriteLine("division is " + c);
Console.ReadKey();
}
}
}
```

```
/*Output:
----------Arithmetic Operator----------
Enter the 1st Number:
5
Enter the 2nd Number:
5
----------ArithmeticOperation are----------
Addition is: 10
Subtraction is: 0
Multiplication is: 25
Division is 1
*/
```

b) All Operators

```
--------------------------------------------------------------------------
Steps:
1.Start visual Studio 2008.
2.Create a Console file:-File->New->Project->Console Application.
--------------------------------------------------------------------------

class Program
{
static void Main(string[] args)
{
int a = 10, b = 20;
int number = 10;
bool result;
string result1;
Console.WriteLine("a=" + a);
Console.WriteLine("b=" + b);
Console.WriteLine("1.Arithmetic Operators");
Console.WriteLine("\n");
Console.WriteLine("(a+b)=" + (a + b));
Console.WriteLine("(a-b)=" + (a - b));
Console.WriteLine("(a/b)=" + (a / b));
Console.WriteLine("(a*b)=" + (a * b));
Console.WriteLine("(a%b)=" + (a % b));
Console.WriteLine("__________________________");
Console.WriteLine("2.Relational Operators");
Console.WriteLine("\n");
Console.WriteLine("(a==b)=" + (a == b));
Console.WriteLine("(a<b)=" + (a < b));
Console.WriteLine("(a>b)=" + (a > b));
Console.WriteLine("(a>=b)=" + (a >= b));
Console.WriteLine("(a<=b)=" + (a <= b));
Console.WriteLine("(a!=b)=" + (a != b));
Console.WriteLine("__________________________");
Console.WriteLine("3.Logical Operators");
Console.WriteLine("\n");
Console.WriteLine("a==b || a>b", result = (a == b) || (a > b));
Console.WriteLine(result);
Console.WriteLine("a==b && a>b",result = (a == b) && (a > b));
Console.WriteLine(result);
Console.WriteLine("__________________________");
Console.WriteLine("4.Bitwise Operators");
Console.WriteLine("\n");
Console.WriteLine("(a&b)=" + (a & b));
Console.WriteLine("(a|b)=" + (a | b));
Console.WriteLine("(a^b)=" + (a ^ b));
Console.WriteLine("(a<<b)=" + (a << b));
Console.WriteLine("(a>>b)=" + (a >> b));
Console.WriteLine("__________________________");
Console.WriteLine("5.Ternary Operator");
Console.WriteLine("\n");
Console.WriteLine("{0} is {1}", number,result1 = (number % 2 == 0) ?
"Even Number" : "Odd Number");
Console.WriteLine("__________________________");
Console.ReadLine();
}
}
```

/*Output:


file:///C:/Users/IMRD/AppData/Local/Temporary Projects/ConsoleAp...

```
a=10
b=20
1.Arithmetic Operators


(a+b)=30
(a-b)=-10
(a/b)=0
(a*b)=200
(a%b)=10
__________________________
2.Relational Operators


(a==b)=False
(a<b)=True
(a>b)=False
(a>=b)=False
(a<=b)=True
(a!=b)=True
__________________________
3.Logical Operators


a==b || a>b
False
a==b && a>b
False
__________________________
4.Bitwise Operators


(a&b)=0
(a|b)=30
(a^b)=30
(a<<b)=10485760
(a>>b)=0
__________________________
5.Ternary Operator


10 is Even Number
__________________________
```

Assignment 3: Write a program to show use of Lopping Constructs.

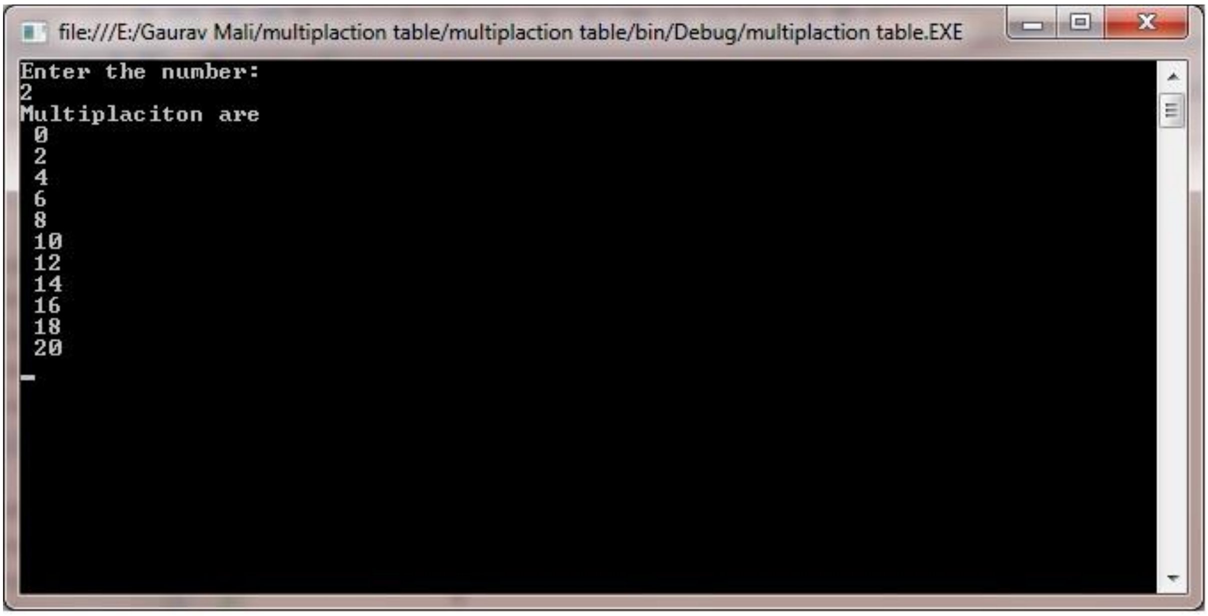
Steps:
1.Start visual Studio 2008.
2.Create a Console file:-File->New->Project->Console Application.

----

a) Multiplication Table using For loop.

```
Class Program
{
Static void Main(string[] args)
{
int i, n;
Console.WriteLine("Enter the number: ");
            n = Convert.ToInt32(Console.ReadLine());
Console.WriteLine ("Multiplication are");
for (i = 0; i<= 10; ++i)
            {
Console.WriteLine(" " +n*i);
            }
Console.ReadLine();
}
```

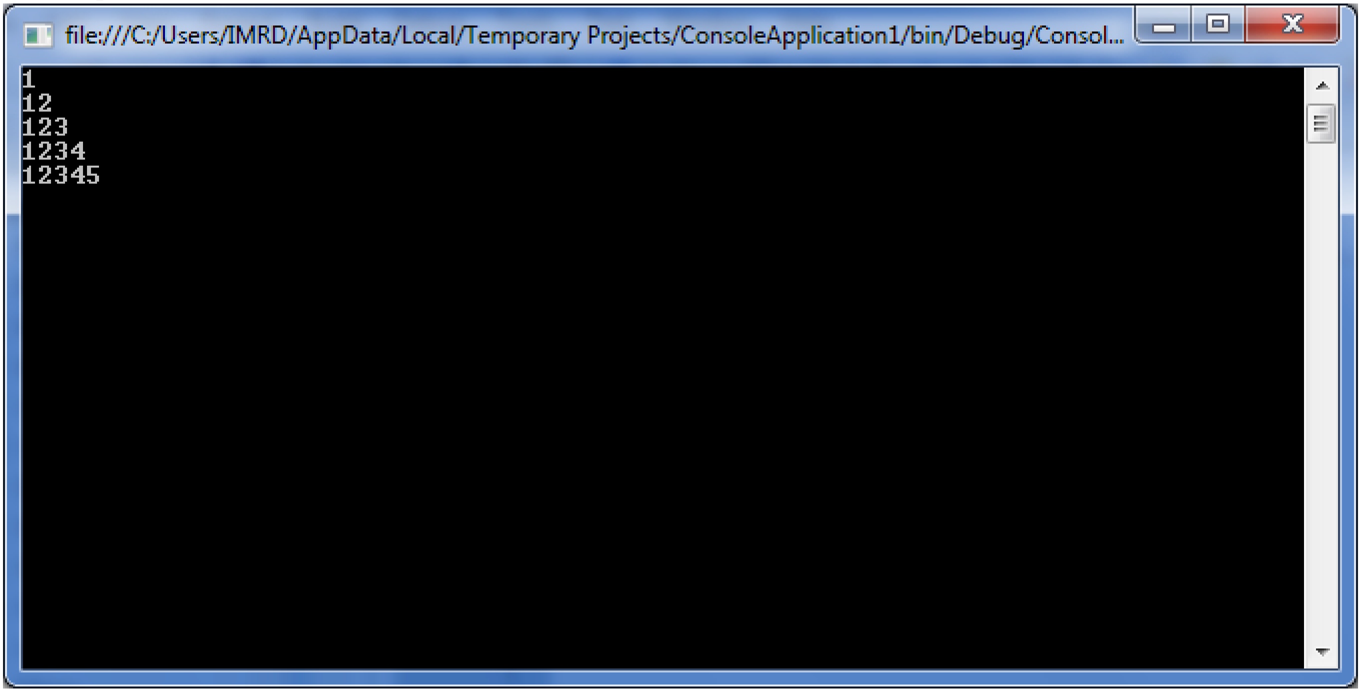
/*


file:///E:/Gaurav Mali/multiplaction table/multiplaction table/bin/Debug/multiplaction table.EXE

```
Enter the number:
2
Multiplaciton are
 0
 2
 4
 6
 8
 10
 12
 14
 16
 18
 20
```

b)Program for Nested For Loop.

```
-------------------------------------------------------------------------
Steps:
1.Start visual Studio 2008.
2.Create a Console file:-File->New->Project->Console Application.
-------------------------------------------------------------------------
class Program
   {
      static void Main(string[] args)
       {
          for (int i = 1; i <= 5; i++)
           {
              for (int j = 1; j <= i; j++)
               {
                  Console.Write(j);
               }
               Console.WriteLine();
            }
           Console.ReadLine();
       }
   }
}
/*Output:
```


file:///C:/Users/IMRD/AppData/Local/Temporary Projects/ConsoleApplication1/bin/Debug/Consol...

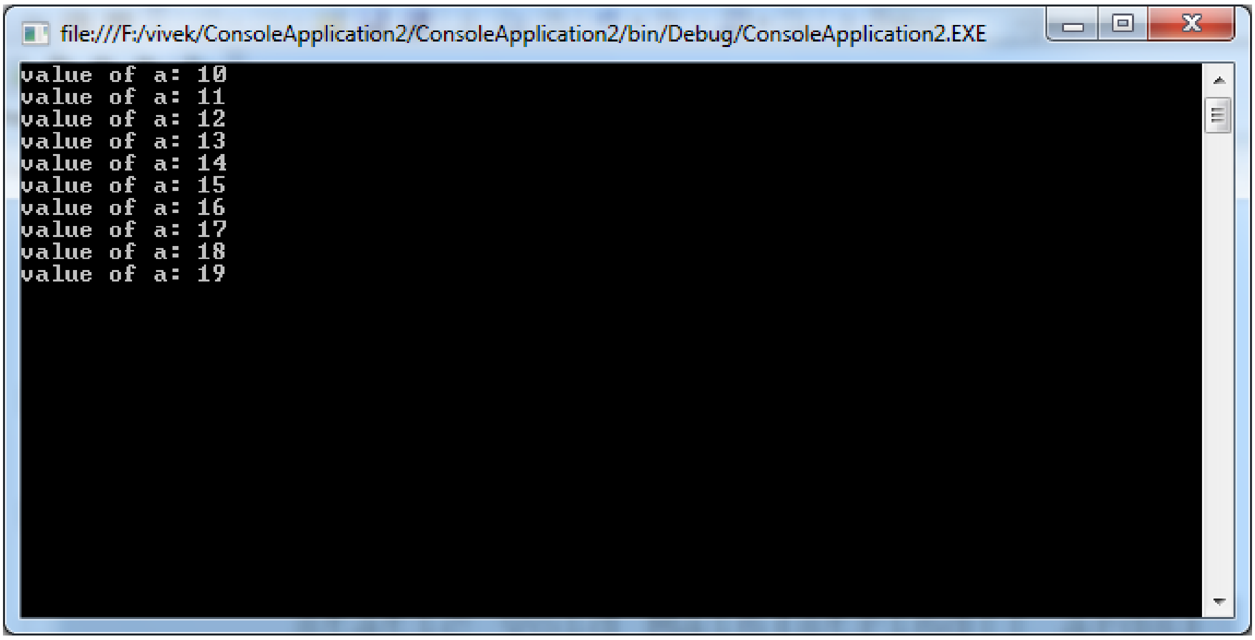
```
1
12
123
1234
12345
```

C)Program for While loop.

Steps:
1.Start visual Studio 2008.
2.Create a Console file:-File->New->Project->Console Application.

```
class Program
{
        static void Main(string[] args)
        {
            int a = 10;

            /* while loop execution */
            while (a < 20)
            {
                Console.WriteLine("value of a: {0}", a);
                a++;
            }
            Console.ReadLine();
     }
}
```

Output:



file:///F:/vivek/ConsoleApplication2/ConsoleApplication2/bin/Debug/ConsoleApplication2.EXE

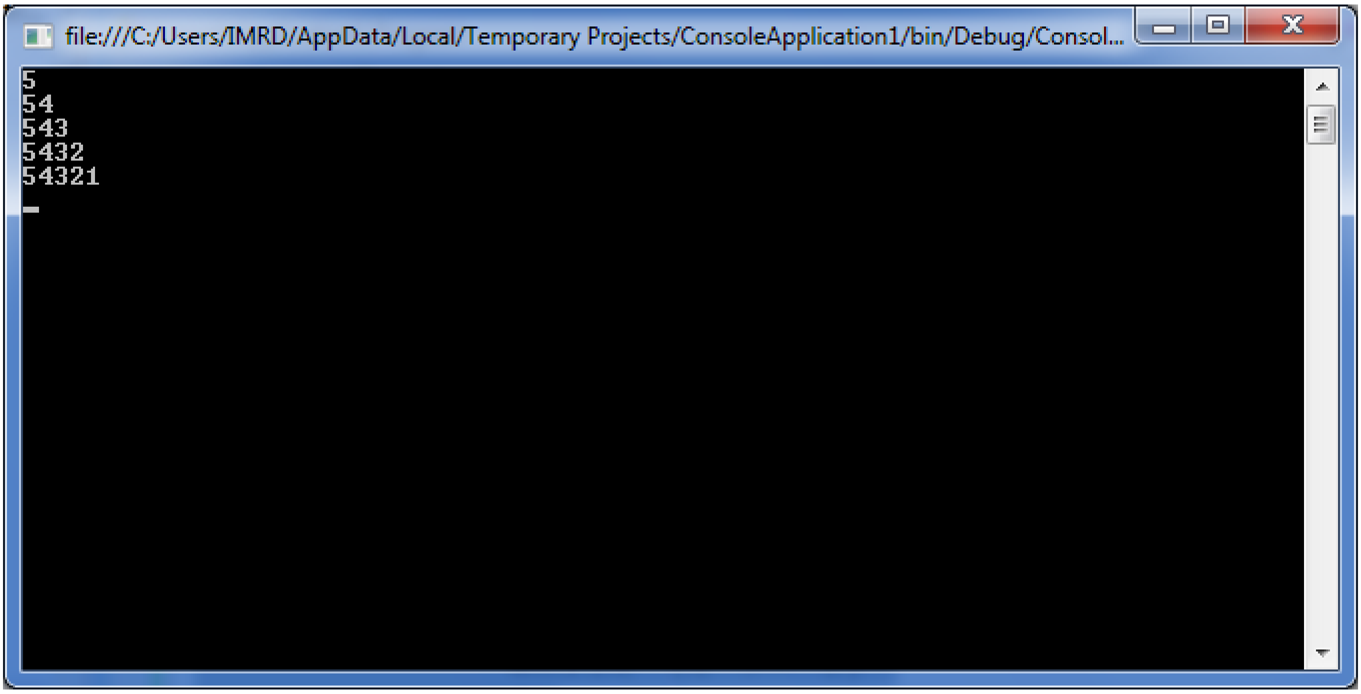
```
value of a: 10
value of a: 11
value of a: 12
value of a: 13
value of a: 14
value of a: 15
value of a: 16
value of a: 17
value of a: 18
value of a: 19
```

D) Program for Nested While Loop.

Steps:
1.Start visual Studio 2008.
2.Create a Console file:-File->New->Project->Console Application.

```
class Program
   {
      static void Main(string[] args)
       {
         int i = 5;
         while (i >= 1)
          {
            int j = 5;
            while (j >= i)
             {
              Console.Write(j);
                j--;
              }
              i--;
             Console.WriteLine();
          }
         Console.Read();
      }
   }
```

/*Output:


file:///C:/Users/IMRD/AppData/Local/Temporary Projects/ConsoleApplication1/bin/Debug/Consol...

```
5
54
543
5432
54321
```

E) Program for do-while loop

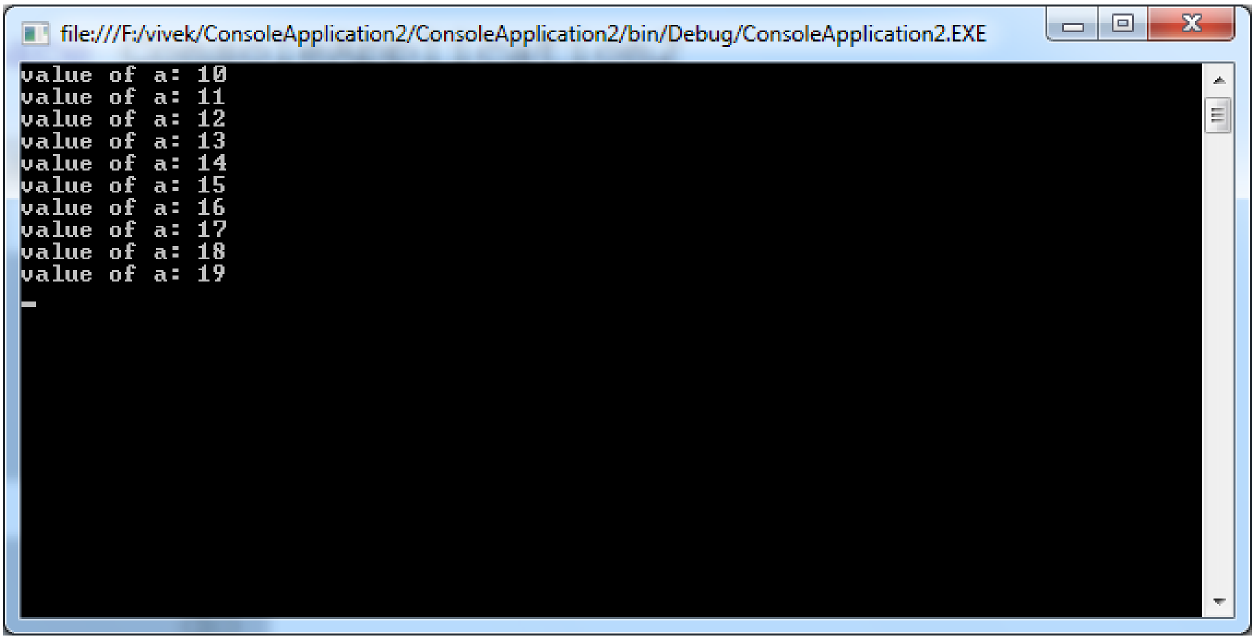
Steps:

1.Start visual Studio 2008.

2.Create a Console file:-File->New->Project->Console Application.

```
    class Program
    {
        static void Main(string[] args)
        {
            /* local variable definition */
            int a = 10;

            /* do loop execution */
            do
            {
                Console.WriteLine("value of a: {0}", a);
                a = a + 1;
            }
            while (a < 20);
            Console.ReadLine();
        }
    }
```

Output:

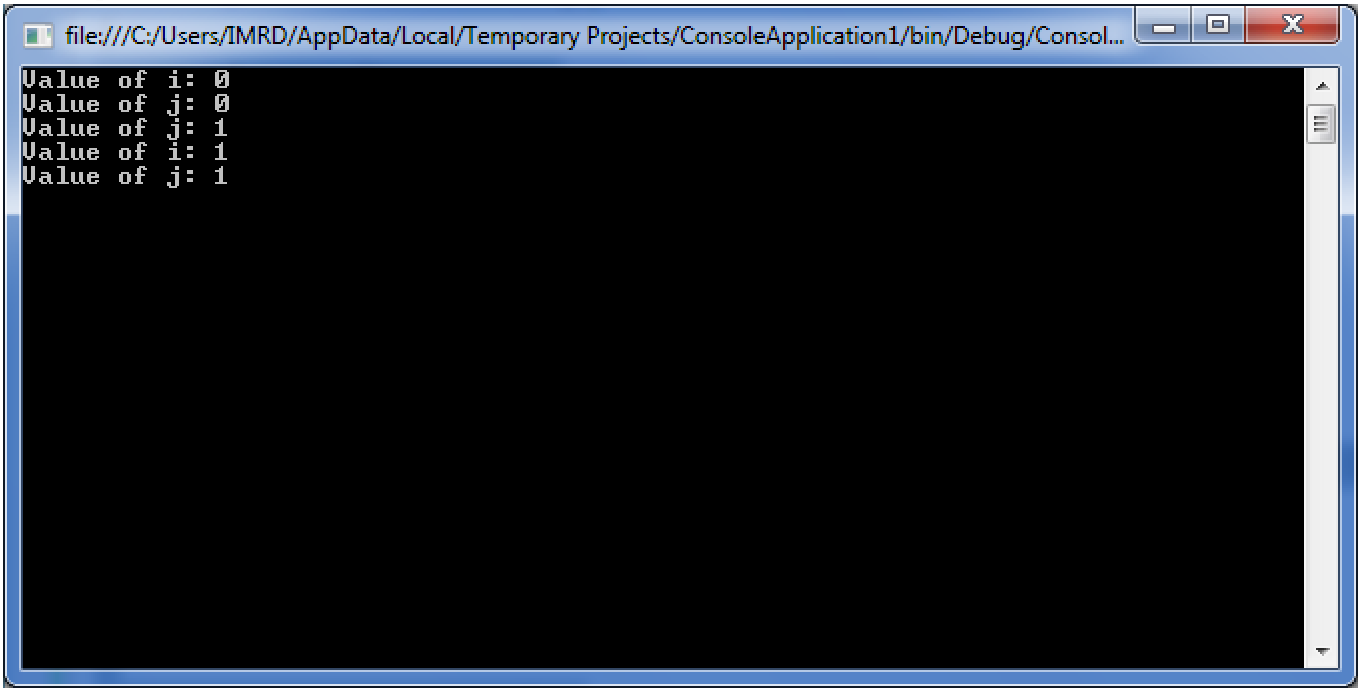


file:///F:/vivek/ConsoleApplication2/ConsoleApplication2/bin/Debug/ConsoleApplication2.EXE

```
value of a: 10
value of a: 11
value of a: 12
value of a: 13
value of a: 14
value of a: 15
value of a: 16
value of a: 17
value of a: 18
value of a: 19
```

F) Program for nested do-while loop.

```
------------------------------------------------------------------------
Steps:
1.Start visual Studio 2008.
2.Create a Console file:-File->New->Project->Console Application.
------------------------------------------------------------------------
class Program
{
        static void Main(string[] args)
{
            int i = 0;

            do
{
               Console.WriteLine("Value of i: {0}", i);
               int j = i;

               i++;

               do
{
               Console.WriteLine("Value of j: {0}", j);
               j++;

} while (j < 2);

} while (i < 2);
Console.ReadKey();
}
}
/*Output:
```



file:///C:/Users/IMRD/AppData/Local/Temporary Projects/ConsoleApplication1/bin/Debug/Consol...

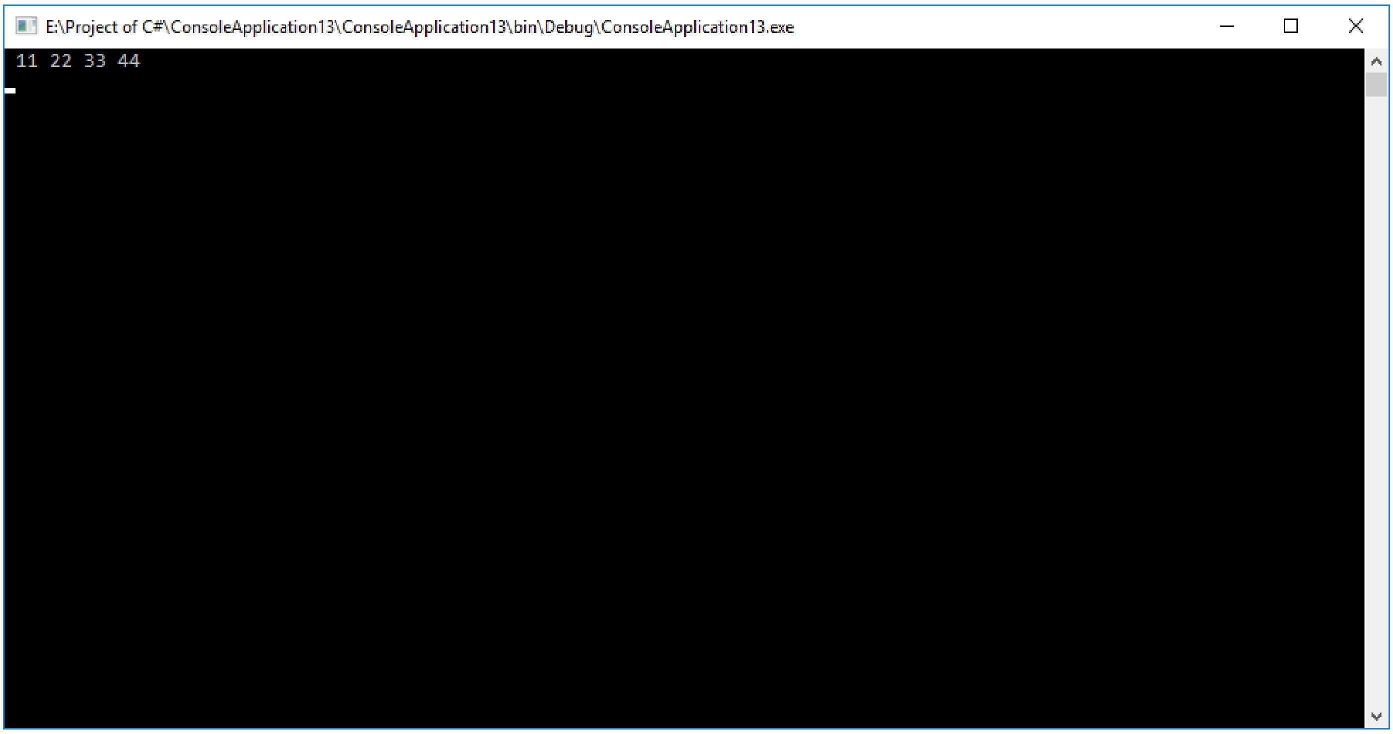
```
Value of i: 0
Value of j: 0
Value of j: 1
Value of i: 1
Value of j: 1
```

G) Program for Forech loop.

Steps:
1.Start visual Studio 2008.
2.Create a Console file:-File->New->Project->Console Application.

```
class Program
{
static void Main(string[] args)
{
int[] arraylnt = { 11, 22, 33, 44 };
foreach (int m in arraylnt)
{
Console.Write("  " + m);
}
Console.WriteLine();
Console.ReadKey();
}
}
```

Output:


E:\Project of C#\ConsoleApplication13\ConsoleApplication13\bin\Debug\ConsoleApplication13.exe

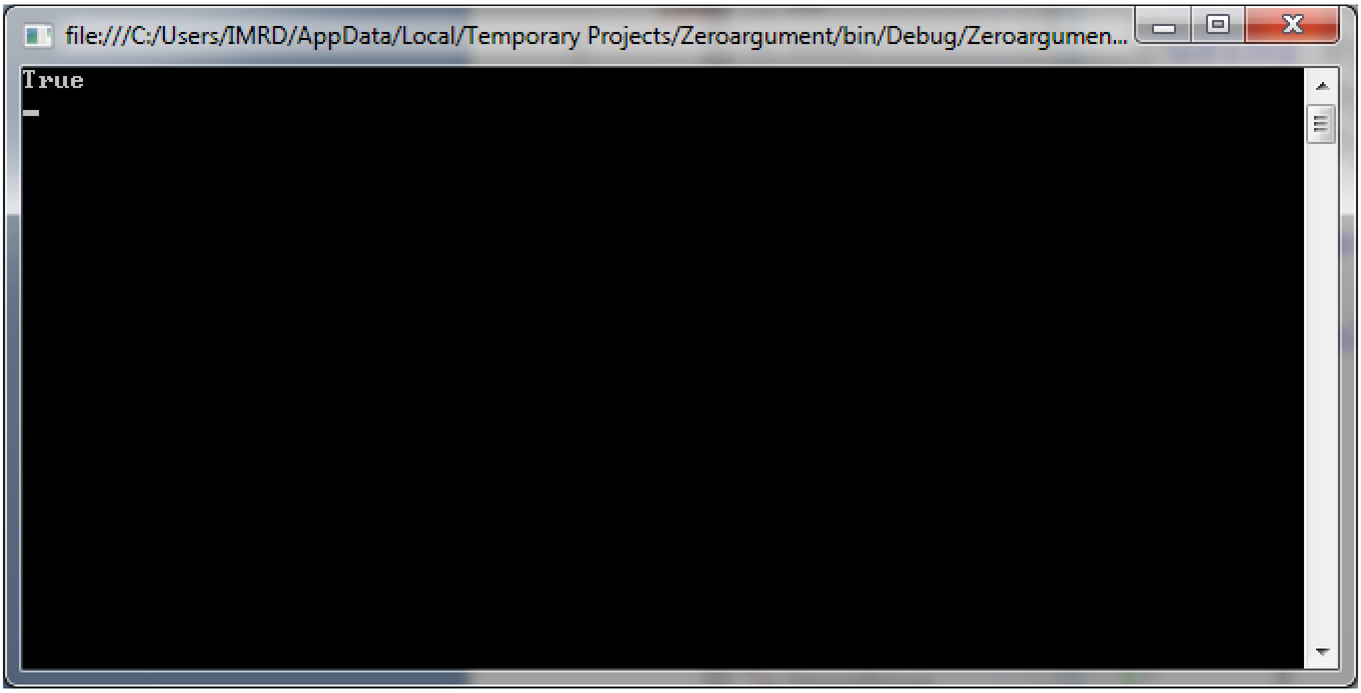
```
 11 22 33 44
```

```
------------------------------------------------------------------------
Assignment 4: Write a program to show use of Constructor.
------------------------------------------------------------------------
Steps:
1.Start visual Studio 2008.
2.Create a Console file:-File->New->Project->Console Application.
------------------------------------------------------------------------
```

a) Zero argument

```
Public class Taxi
{
        public bool islnitalized;
        public Taxi()
{
            islnitalized = true;
}
}
class TextTaxi
{
static void Main(string[] args)
{
            Taxi t = new Taxi();
            Console.WriteLine(t.islnitalized);
            Console.ReadKey();
}
}
}
```

/*Output*/



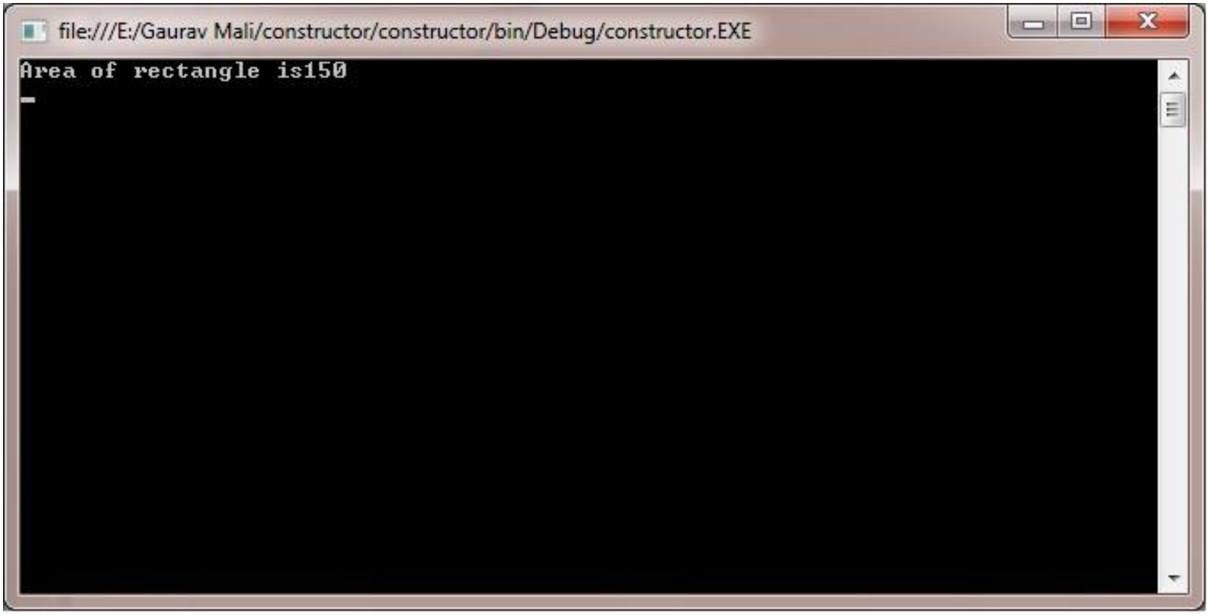
file:///C:/Users/IMRD/AppData/Local/Temporary Projects/Zeroargument/bin/Debug/Zeroargumen...

```
True
_
```

b)Two argument.

```
Steps:
1.Start visual Studio 2008.
2.Create a Console file:-File->New->Project->Console Application.
```

```
Class Rectangle
{
Public int length, width;
Public Rectangle(int x, int y)
{
            length = x;
            width = y;
}
Public int rectarea()
{
return (length * width);
}
}
Class rectarea
{
Public static void Main()
{
Rectangle r = newRectangle(15, 10);
int a = r.rectarea();
Console.WriteLine("Area of rectangle is" + a);
Console.ReadKey();
}
}
}

/*Output */
```

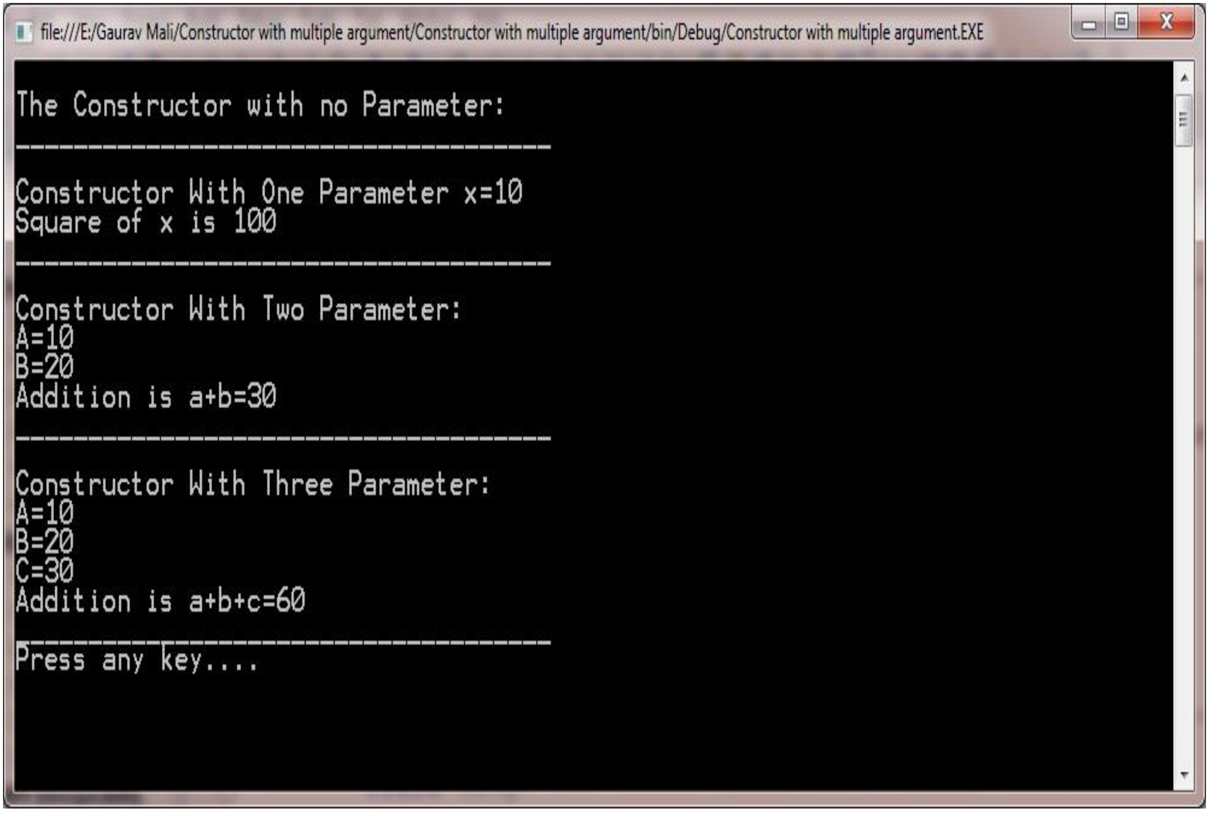

file:///E:/Gaurav Mali/constructor/constructor/bin/Debug/constructor.EXE

```
Area of rectangle is150
```

c) Constructor with multiple Arguments.

```
-----------------------------------------------------------------------
Steps:
1.Start visual Studio 2008.
2.Create a Console file:-File->New->Project->Console Application.
-----------------------------------------------------------------------
Class demo
{
Public int a, b, c;
public demo()
{
Console.WriteLine("\nThe Constructor with no Parameter:");
Console.WriteLine("_____________________________________");
}
public demo(int a)
{
int x = a;
Console.WriteLine("\nConstructor With One Parameter x="+a);
Console.WriteLine("Square of x is "+x*x);
Console.WriteLine("_____________________________________");
}
public demo(int a, int b)
{
Console.WriteLine("\nConstructor With Two Parameter:");
Console.WriteLine("A=" + a);
Console.WriteLine("B=" + b);
int c = a + b;
Console.WriteLine("Addition is a+b="+c);
Console.WriteLine("_____________________________________");
}
public demo(int a, int b, int c)
{
Console.WriteLine("\nConstructor With Three Parameter:");
Console.WriteLine("A=" + a);
Console.WriteLine("B=" + b);
Console.WriteLine("C=" + c);
int d = a + b + c;
Console.WriteLine("Addition is a+b+c="+d);
Console.WriteLine("_____________________________________");
}
Class disp
{
Static void Main(string[] args)
{
demo d = newdemo();
demo d2 = newdemo(10);
demo d3 = newdemo(10, 20);
demo d4 = newdemo(10, 20, 30);
Console.WriteLine("Press any key....");
Console.ReadKey();
}
}
}
}
```

/*Output*/



file:///E:/Gaurav Mali/Constructor with multiple argument/Constructor with multiple argument/bin/Debug/Constructor with multiple argument.EXE

```
The Constructor with no Parameter:
-------------------------------------

Constructor With One Parameter x=10
Square of x is 100

-------------------------------------

Constructor With Two Parameter:
A=10
B=20
Addition is a+b=30

-------------------------------------

Constructor With Three Parameter:
A=10
B=20
C=30
Addition is a+b+c=60

-------------------------------------
Press any key....
```

Assignment 5: Write a program to demonstrate inheritance.

Steps:

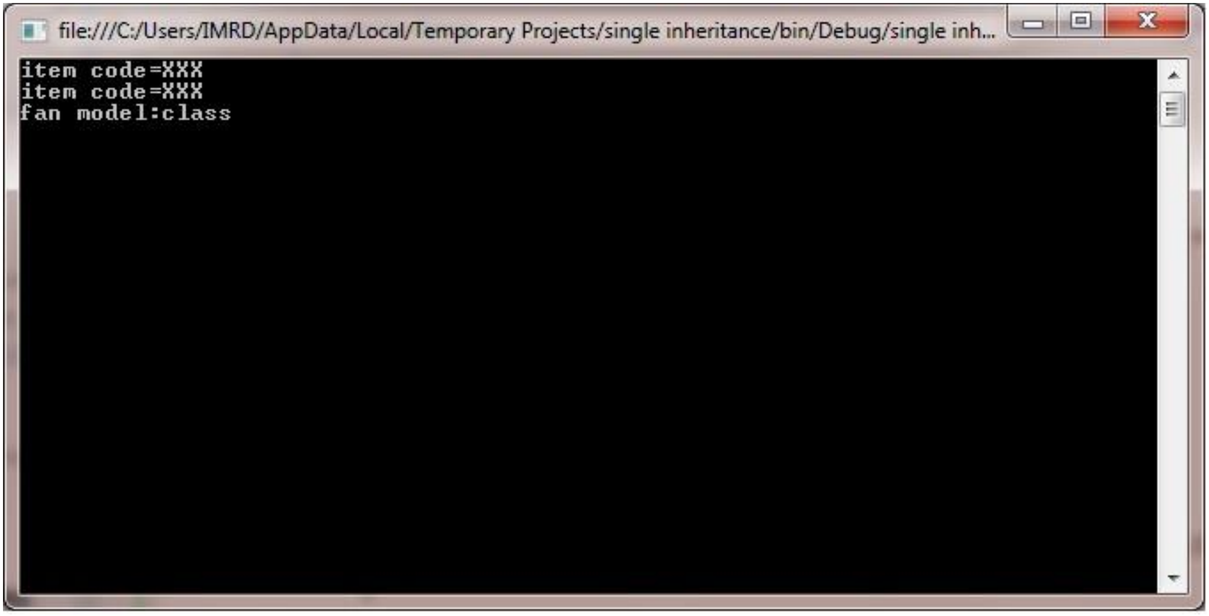
1.Start visual Studio 2008.

2.Create a Console file:-File->New->Project->Console Application.

----

a) Single inheritance.

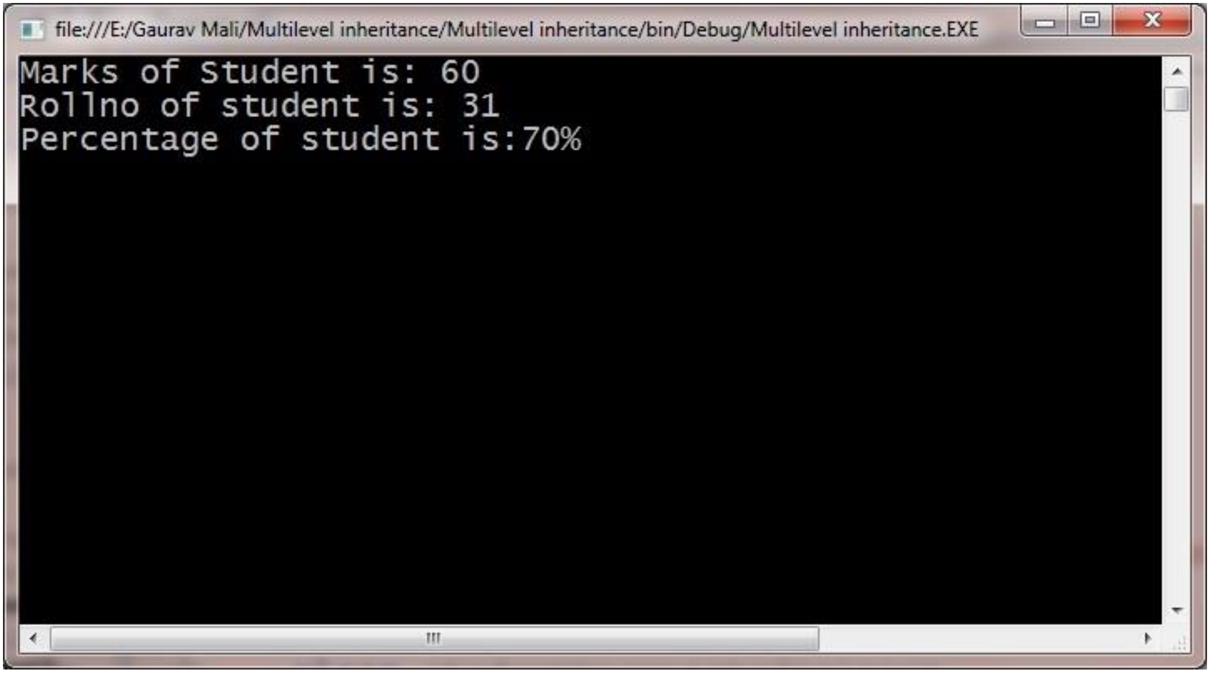
```
Class item
{
Public void company()
{
Console.WriteLine("item code=XXX");
}
}
Class fan:item
{
Public void model()
{
Console.WriteLine("fan model:class");
}
}
Class simpleinheritance
{
staticvoid Main(string[] args)
{
item i = newitem();
fan f = newfan();
            i.company();
            f.company();
            f.model();
Console.ReadKey();
}
}
}
/*Output*/
```


file:///C:/Users/IMRD/AppData/Local/Temporary Projects/single inheritance/bin/Debug/single inh...

```
item code=XXX
item code=XXX
fan model:class
```

b) Multilevel Inheritances

```
-------------------------------------------------------------------------
Steps:
1.Start visual Studio 2008.
2.Create a Console file:-File->New->Project->Console Application.
-------------------------------------------------------------------------
Class studscience
{
Public void marks()
{
Console.WriteLine("Marks of Student is: 60");
}
}
Class studcommarce:studscience
{
Public void rollno()
{
Console.WriteLine("Rollno of student is: 31");
}
}
Class stud:studcommarce
{
Public void percentage()
{
Console.WriteLine("Percentage of student is:70%");
}
}
Class display
{
staticvoid Main(string[] args)
{
studscience sci=newstudscience();
studcommarce com = newstudcommarce();
stud art = newstud();
            art.marks();
            art.rollno();
            art.percentage();
Console.ReadKey();
}
}/*output*/
```



file:///E:/Gaurav Mali/Multilevel inheritance/Multilevel inheritance/bin/Debug/Multilevel inheritance.EXE

```
Marks of Student is: 60
Rollno of student is: 31
Percentage of student is:70%
```

C) Multiple interface (inheritance)

Steps:

1.Start visual Studio 2008.

2.Create a Console file:-File->New->Project->Console Application.

```
interface Info                      // Info interface is define
    {
        void getinfo();                     // methos declare in interface
    }

    interface Marks                 // Marks interface is define
    {
        void getmarks();                  // methos declare in interface
    }
    class Student : Info, Marks
    {
        int rno, sub1, sub2;
        string name;
        public void getinfo()    //method of Info interface is 
implemented
        {
            Console.WriteLine("Enter the Roll No: ");
            rno = int.Parse(Console.ReadLine());
            Console.WriteLine("Enter the Name: ");
            name =Console.ReadLine();
        }
        public void getmarks()  //method of marks interface is 
implemented
        {
            Console.WriteLine("Enter the Marks of Subject 1: ");
            sub1 = int.Parse(Console.ReadLine());
            Console.WriteLine("Enter the Marks of Subject 1: ");
            sub2 = int.Parse(Console.ReadLine());
        }
        public void show()      // class methos is define
        {
            Console.WriteLine("Roll No is  : "+rno);
            Console.WriteLine("Name is     : " + name);
            Console.WriteLine("Subject 1 is: " + sub1);
            Console.WriteLine("Subject 2 is: " + sub2);
        }

    }
    class Program
    {
        static void Main(string[] args)
        {
            Student d = new Student();  //object of class
            d.getinfo();                //Info interface method call
            d.getmarks();               //Marks interface method call
            d.show();                   // class methos call
        }

    }
}
```

Output:

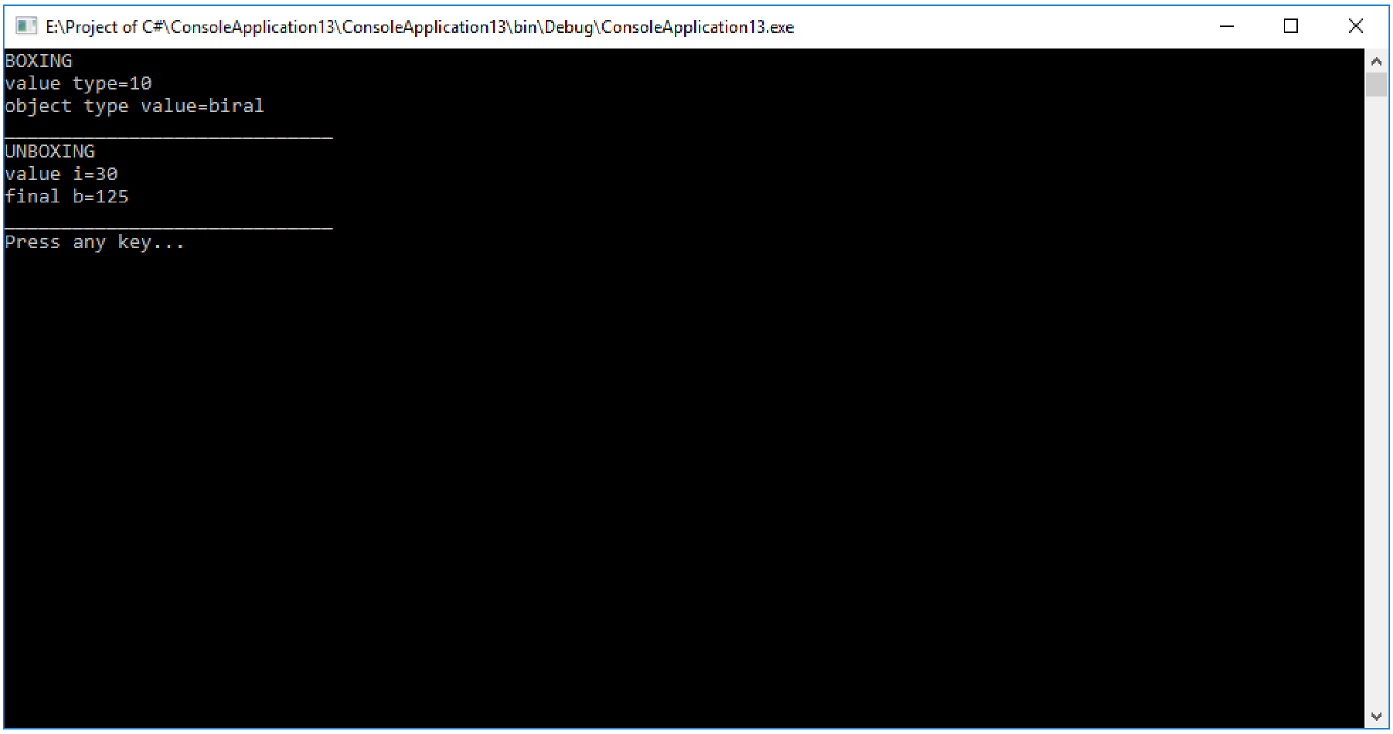
```
Enter the Roll No: 26
26
Enter the Name:
Pinkesh
Enter the Marks of Subject 1:
38
Enter the Marks of Subject 1:
39
Roll No is  : 26
Name is     : Pinkesh
Subject 1 is: 38
Subject 2 is: 39
Press any key to continue . . .
```

Assignment 6: Write a program to demonstrate the concept of boxing and unboxing.

Steps:
1.Start visual Studio 2008.
2.Create a Console file:-File->New->Project->Console Application.

```
class boxing
{
public void Boxing()
{
            int a = 10;
            object obj1 = a;
            a = 100;
            string str = "biral";
            object obj = str;
            Console.WriteLine("BOXING");
            Console.WriteLine("value type={0}", obj1);
            Console.WriteLine("object type value={0}", obj);
            Console.WriteLine("_____________________________");
}
}
class unboxing
{
public void Unboxing()
{
            Console.WriteLine("UNBOXING");
            int i = 50;
            object o = 30;
            i = (int)o;
            Console.WriteLine("value i={0}", i);
            int b = 100;
            object obj2 = 125;
            b = (int)obj2;
            Console.WriteLine("final b={0}", +b);
            Console.WriteLine("_____________________________");
}
}
class display
{
static void Main(string[] args)
{
            boxing b = new boxing();
            b.Boxing();
            unboxing u = new unboxing();
            u.Unboxing();
            Console.WriteLine("Press any key...");
            Console.ReadKey();
}
}
```

Output:



E:\Project of C#\ConsoleApplication13\ConsoleApplication13\bin\Debug\ConsoleApplication13.exe

```
BOXING
value type=10
object type value=biral
_____________________________
UNBOXING
value i=30
final b=125
_____________________________
Press any key...
```

Assignment 7: Write a program to demonstrate the concept of property and indexing.

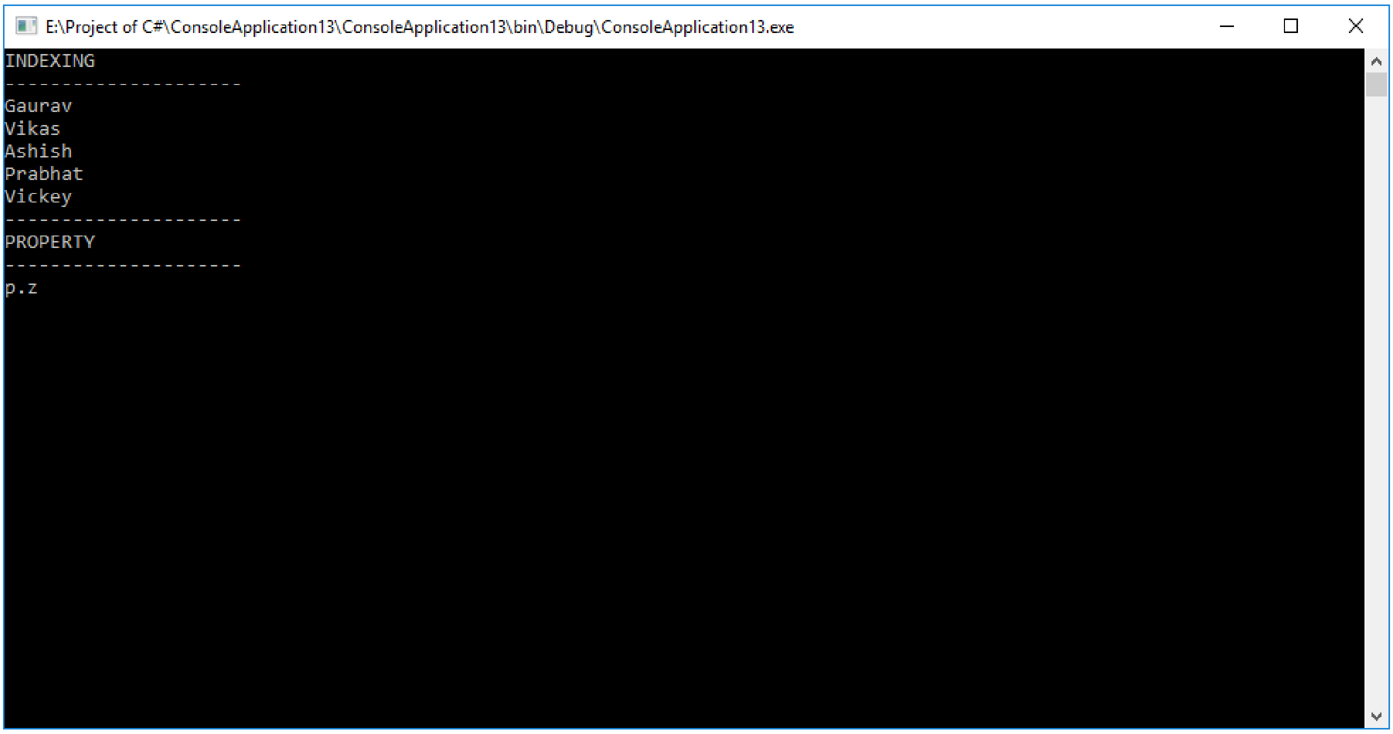
Steps:

1.Start visual Studio 2008.

2.Create a Console file:-File->New->Project->Console Application.

```
class Indexing
{
        private string[] range = new string[5];
        public string this[int index]
{
            get
            {
                return range[index];
            }
            set
            {
                range[index] = value;
            }
}
}
class property
{
        private int x;
        public property(int i)
        {
            x = i;
        }
        public int z
        {
            get
            {
                return x;
            }
            set
            {
                x = value;
            }
        }
}
class disp
{
        static void Main(string[] args)
        {
            Indexing id = new Indexing();
            Console.WriteLine("INDEXING");
            Console.WriteLine("---------------------");
            id[0] = "Gaurav";
            id[1] = "Vikas";
            id[2] = "Ashish";
            id[3] = "Prabhat";
            id[4] = "Vickey";
            for (int i = 0; i < 5; i++)
            {
                Console.WriteLine(id[i]);
            }
            Console.WriteLine("---------------------");
            Console.WriteLine("PROPERTY");
            Console.WriteLine("---------------------");
            property p = new property(40);
            Console.WriteLine("p.z",p.z);
            Console.ReadKey();
        }
}
```

OUTPUT:


E:\Project of C#\ConsoleApplication13\ConsoleApplication13\bin\Debug\ConsoleApplication13.exe

```
INDEXING
---------------------
Gaurav
Vikas
Ashish
Prabhat
Vickey
---------------------
PROPERTY
---------------------
p.z
```

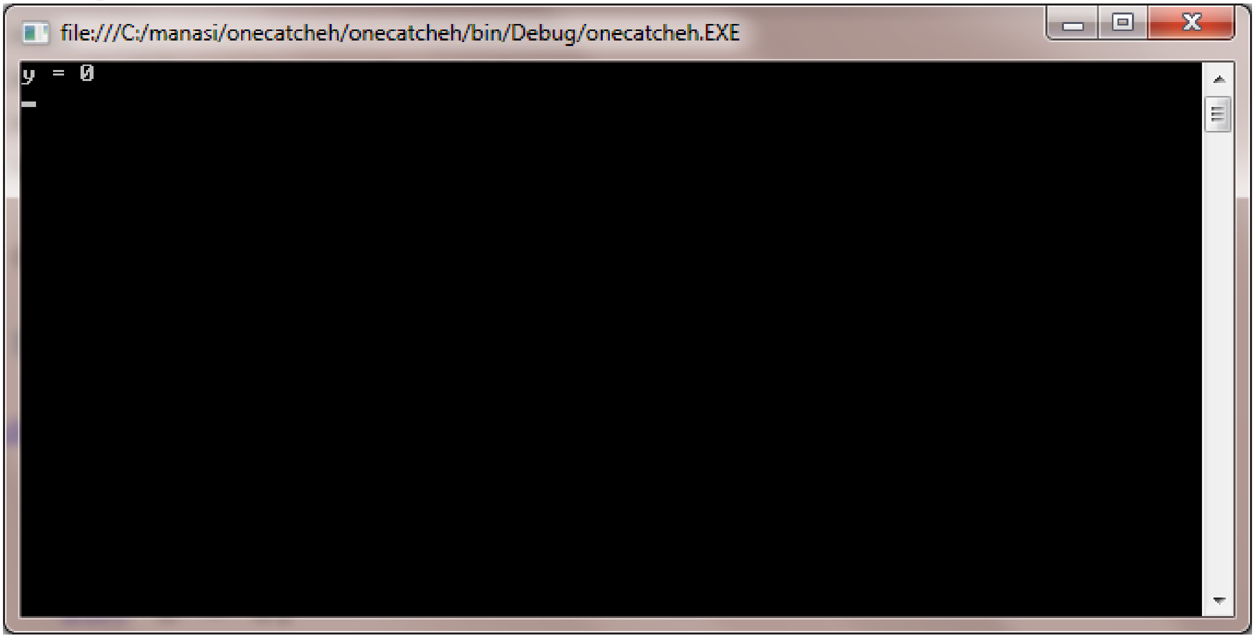
Assignment 8: Write a program to show use of Exception Handling.

Steps:
1.Start visual Studio 2008.
2.Create a Console file:-File->New->Project->Console Application.
----

a) One catch block

```
class Error3
{
        public static void Main(string[] args)
        {
            int a = 10;
            int b = 10;
            int c = 5;
            int x, y;
            try
            {
                x = a / (b - c);

            }
            catch (Exception e)
            {
                Console.WriteLine("divide by zero");
            }
            y = a / (b + c);
            Console.WriteLine("y = " + y);
            Console.ReadKey();
}
}
```

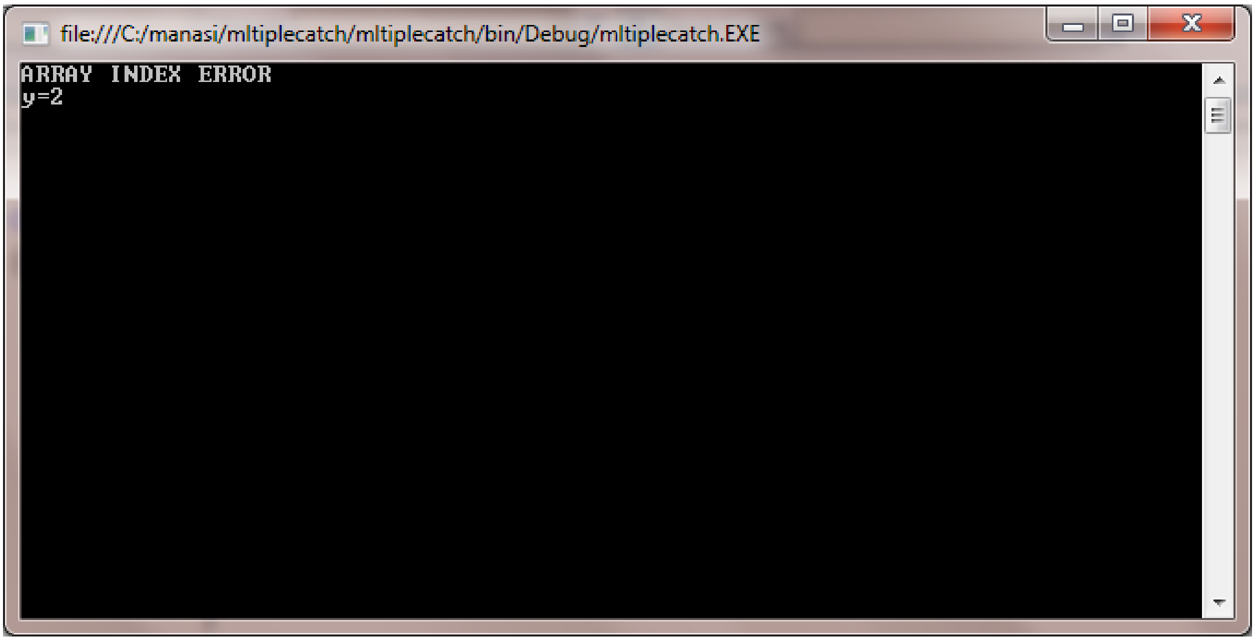
/*Output*/


file:///C:/manasi/onecatcheh/onecatcheh/bin/Debug/onecatcheh.EXE

```
y = 0
```

b) Multiple catch block.

```
------------------------------------------------------------------------
Steps:
1.Start visual Studio 2008.
2.Create a Console file:-File->New->Project->Console Application.
------------------------------------------------------------------------
class Error4
{
        public static void Main(string[] args)
{
            int[] a = { 5, 10 };
            int b = 5;
            try
            {
                int x = a[2] / b - a[1];
            }
            catch (ArithmeticException)
            {
                Console.WriteLine("division by zero");
            }
            catch (ArrayTypeMismatchException)
            {
                Console.WriteLine("wrong data type");
            }
            catch (IndexOutOfRangeException E)
            {
                Console.WriteLine("ARRAY INDEX ERROR");
                int y = a[1] / a[0];
                Console.WriteLine("y=" + y);
                Console.ReadKey();
           }
}
}

/*Output*/
```

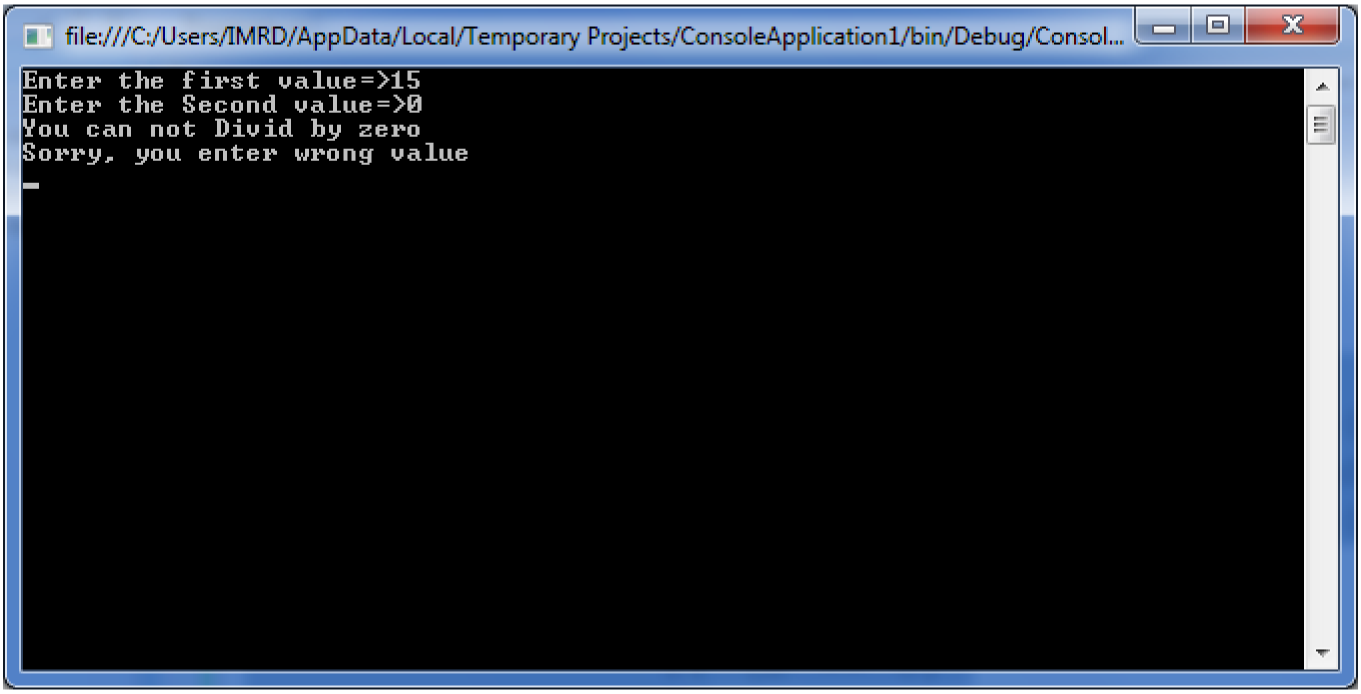


file:///C:/manasi/mltiplecatch/mltiplecatch/bin/Debug/mltiplecatch.EXE

```
ARRAY INDEX ERROR
y=2
```

c) Exception Handling using Throw statement.

```
-------------------------------------------------------------------------
Steps:
1.Start visual Studio 2008.
2.Create a Console file:-File->New->Project->Console Application.
-------------------------------------------------------------------------
class Program
{
        static void Main(string[] args)
        {
            int a, b, c;
            Console.Write("Enter the first value=>");
            a = int.Parse(Console.ReadLine());
            Console.Write("Enter the Second value=>");
            b = int.Parse(Console.ReadLine());
            try
            {
                if (b == 0)
                {
                    throw new Exception("You can not Divid by zero");
                }
                c = a / b;
                Console.WriteLine("Result is=>" + c);
            }
            catch (Exception obj)
            {
                Console.WriteLine(obj.Message);
                Console.WriteLine("Sorry, you enter wrong value");
            }
            Console.ReadKey();
        }
}
```



file:///C:/Users/IMRD/AppData/Local/Temporary Projects/ConsoleApplication1/bin/Debug/Consol...

```
Enter the first value=>15
Enter the Second value=>0
You can not Divid by zero
Sorry, you enter wrong value
```

Assignment 9: Create a C# application using Label, Textbox, Button control.

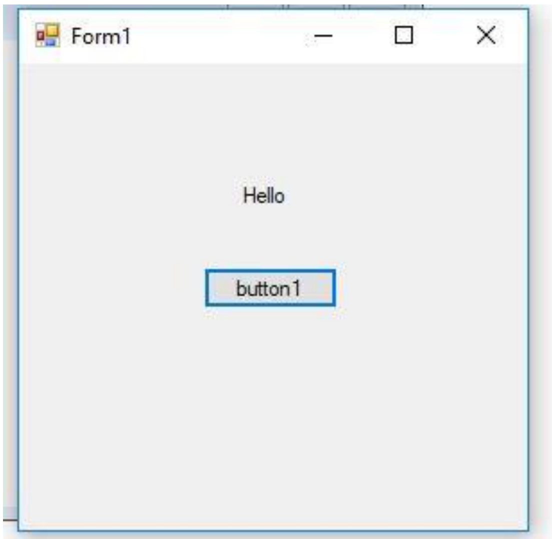
Steps:
1.Start Visual Studio 2008
2.Creat Windows Form:- File->New->Project->WindowsFormsApplication.
4.Get Toolbox->Labe.
      Toolbox->Button.

---

a) Change the Label Text using Button control.

Code for button-:

```
        private void button1Click(object sender, EventArgs e)
        {
            label1.Text = "Hello";
        }
```

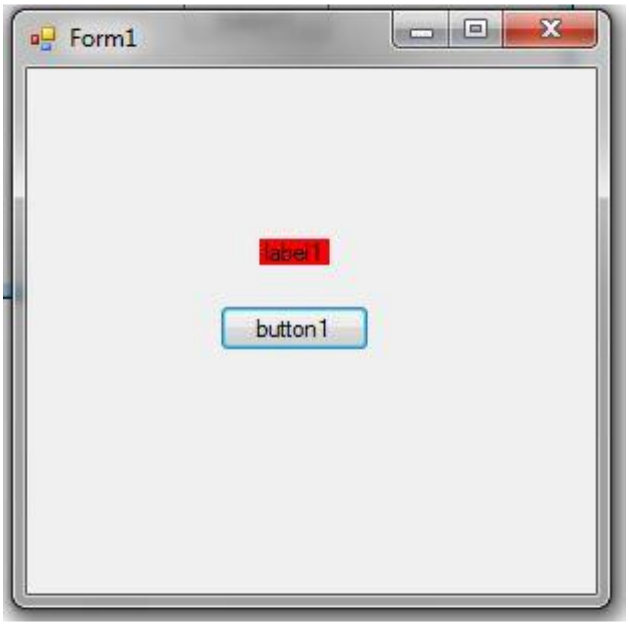


←After click this button Label text change.

b) Change text and background colour using button Control.

```
Toolbox->Label.
Toolbox->button.
```

```
Code for button:-
        private void button1_Click(object sender, EventArgs e)
        {
            label1.BackColor = Color.Red;
        }
```

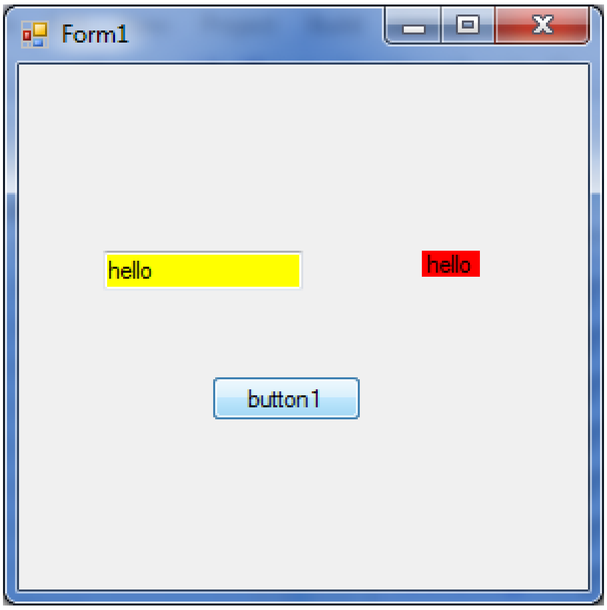


After click the button label color will be change

c)Change the label text and textbox text and Backcolor using button.

```
-------------------------------------------------------------------------
Toolbox->Label.
Toolbox->button.
Toolbox->Textbox.
-------------------------------------------------------------------------
Code:
private void button1_Click(object sender, EventArgs e)
{
        label1.Text = "hello";
        textBox1.Text = "hello";
        label1.BackColor = Color.Red;
        textBox1.BackColor = Color.Yellow;

}
```

Output:



Assignment 10: Create a c# application using List Box, combo box control.

Steps:
1.Start Visual Studio 2008
2.Creat Windows Form:- File->New->Project->WindowsFormsApplication.
4.Get Toolbox->ListBox.
  Get Toolbox->Button.
  Get Toolbox->Textbox.

---

a) Program for List Box.

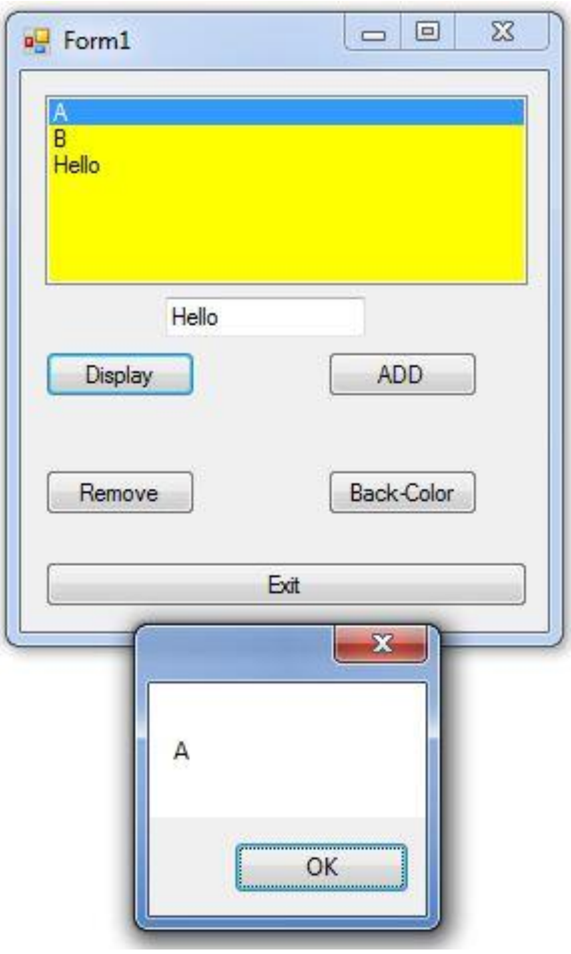
Code-:

Form:

```
      private void Form1_Load(object sender, EventArgs e)
        {
            listBox1.Items.Add("A");
            listBox1.Items.Add("B");
        }
```

Button:

```
        private void button1_Click(object sender, EventArgs e)
        {
            string var1;
            var1 = listBox1.Text;
            MessageBox.Show(var1);
        }

        private void button2_Click(object sender, EventArgs e)
        {
            listBox1.Items.Add(textBox1.Text);
            textBox1.Text = "";
        }

        private void button3_Click(object sender, EventArgs e)
        {
            int n = listBox1.SelectedIndex;
            listBox1.Items.RemoveAt(n);
        }

        private void button4_Click(object sender, EventArgs e)
        {
            listBox1.BackColor = Color.Red;
        }
        private void button5_Click(object sender, EventArgs e)
        {
            Application.Exit();
        }
```



A

b) Program for Combo box

Steps:
1.Start Visual Studio 2008
2.Creat Windows Form:- File->New->Project->WindowsFormsApplication.
4.Get Toolbox->Combo Box.

Coding:-

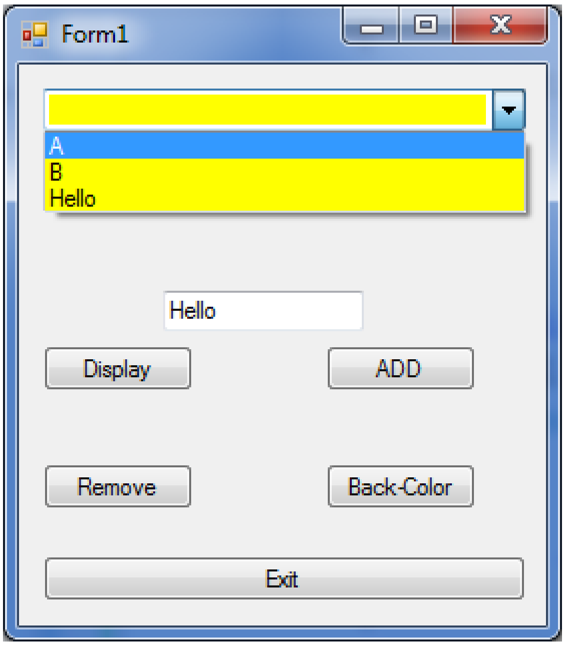
Button:

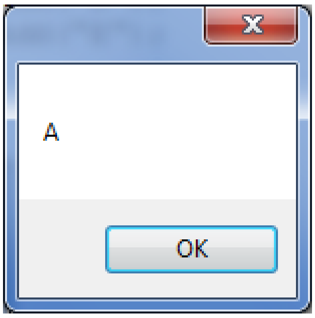
```
        private void button1_Click(object sender, EventArgs e)
        {
            string var1;
            var1 = comboBox1.Text;
            MessageBox.Show(var1);
        }

        private void button2_Click(object sender, EventArgs e)
        {
            comboBox1.Items.Add(textBox1.Text);
            textBox1.Text = "";
        }

        private void button3_Click(object sender, EventArgs e)
        {
            int n = comboBox1.SelectedIndex;
            comboBox1.Items.RemoveAt(n);
        }

        private void button4_Click(object sender, EventArgs e)
        {
            comboBox1.BackColor = Color.Yellow;
        }
```

Form:

```
        private void Form1_Load(object sender, EventArgs e)
        {
            comboBox1.Items.Add("A");
            comboBox1.Items.Add("B");
        }
```

Output:




A

```
-------------------------------------------------------------------------
Assignment 11: Demonstrate the use of Timer control in c#
-------------------------------------------------------------------------
Steps:
1.Start Visual Studio 2008
2.Creat Windows Form:- File->New->Project->WindowsFormsApplication.
4.Get Toolbox->Labe.
      Toolbox->Timer.
-------------------------------------------------------------------------
```

a) Show Date and Time Using timer control.

Coding-:

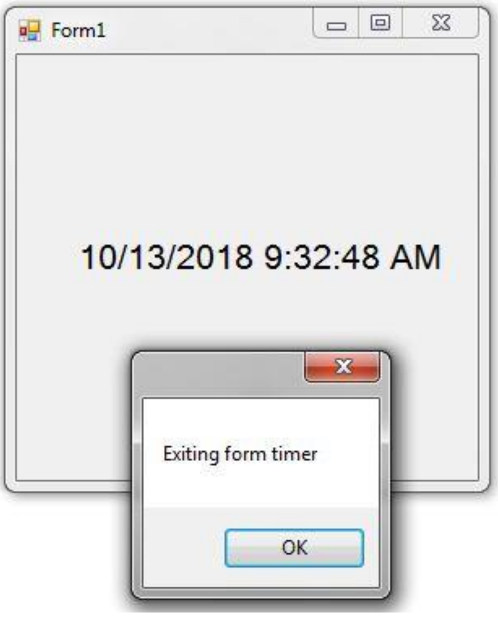
Form1:

```
    public partial class Form1 : Form
    {
        int second = 0;
        public Form1()
        {
            InitializeComponent();
        }

        private void Form1_Load(object sender, EventArgs e)
        {
            timer1.Interval = 1000;
            timer1.Start();

        }
```

Timer Control Coding-:

```
private void timer1_Tick(object sender, EventArgs e)
        {
            label1.Text = DateTime.Now.ToString();
            second = second + 1;
            if (second >= 10)
            {
                timer1.Stop();
                MessageBox.Show("Exiting form timer");
            }
        }
```

Output:



10/13/2018 9:32:48 AM

Exiting form timer

Assignment 12: Create a c# application using Picture box, Scrollbar Control.

Steps:
1.Start Visual Studio 2008
2.Creat Windows Form:- File->New->Project->WindowsFormsApplication.
4.Get Toolbox->Picture Box.

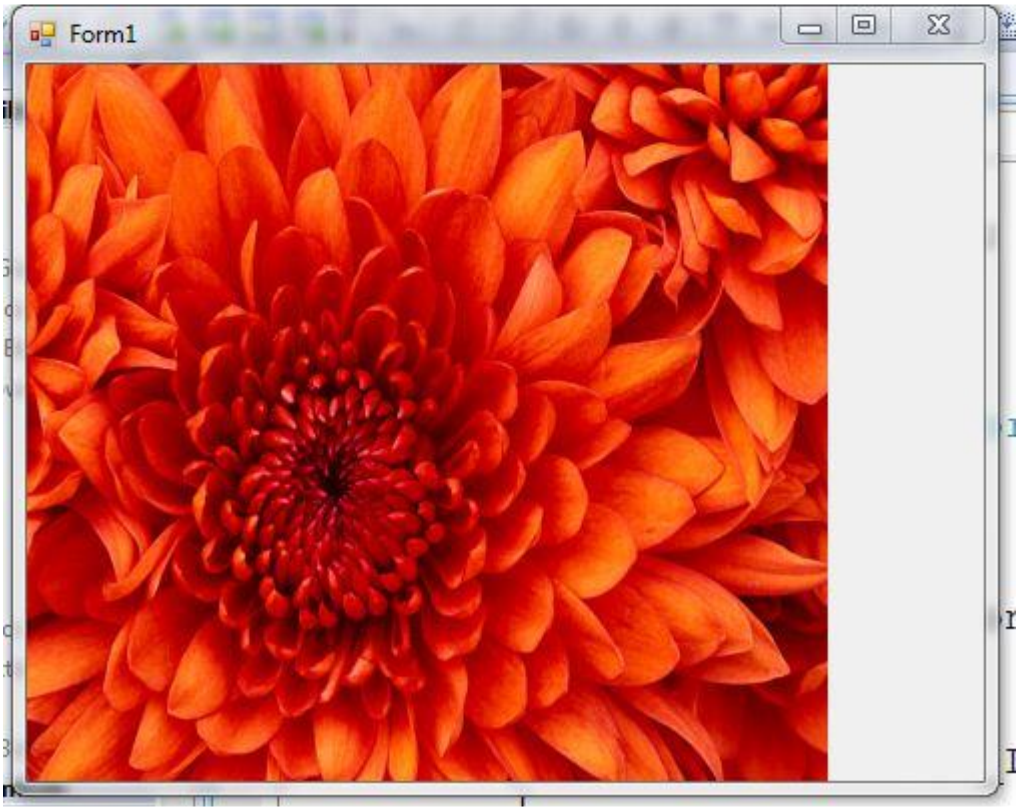
----

a)Picture Box.

Coding-:

```
        private void Form1_Load(object sender, EventArgs e)
        {
            pictureBox1 .Image =Image .FromFile
("C:\\Users\\Public\\Pictures\\Sample Pictures\\Chrysanthemum.jpg");
            pictureBox1.SizeMode = PictureBoxSizeMode.StretchImage;
            pictureBox1.Width = 400;
            pictureBox1.Height = 400;
            pictureBox1.Dock = DockStyle.Left;
        }
```

Output:



b) Scrollbar Control.

```
--------------------------------------------------------------------------
Steps:
1.Start Visual Studio 2008
2.Creat Windows Form:- File->New->Project->WindowsFormsApplication.
4.Get Toolbox-> Label.
  Get Toolbox-> 3vScrollBars.
  Get Toolbox-> TextBox.
5.Change vscrollbar property->value->25.
--------------------------------------------------------------------------
```

Coding-:

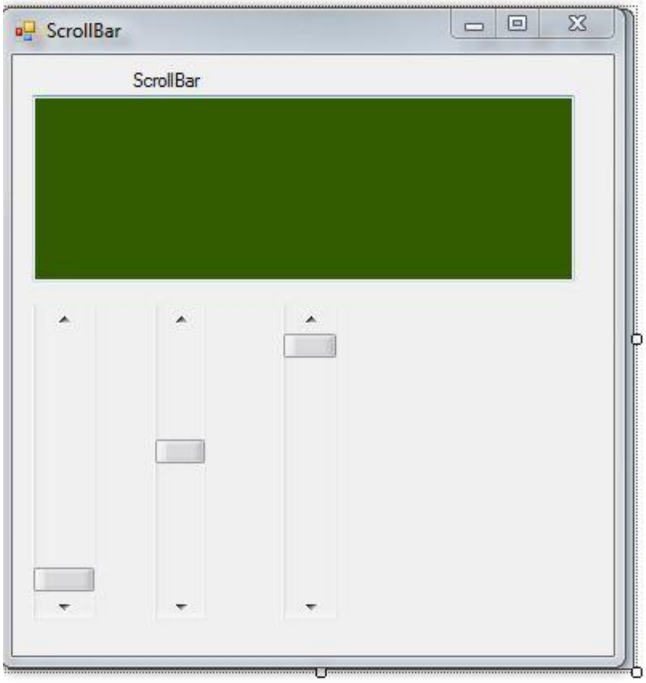
Form:

```
    public partial class Form1 : Form
    {
        int r, g, b;
        public Form1()
        {
            InitializeComponent();
        }
```

Vscrollbar:-

```
private void vScrollBar1_Scroll(object sender, ScrollEventArgs e)
        {
            textBox1.BackColor = Color.FromArgb(r, g, b);
            g = vScrollBar1.Value;

        }

private void vScrollBar2_Scroll(object sender, ScrollEventArgs e)
        {
            textBox1.BackColor = Color.FromArgb(r, g, b);
            r = vScrollBar2.Value;
        }

private void vScrollBar3_Scroll(object sender, ScrollEventArgs e)
        {
            textBox1.BackColor = Color.FromArgb(r,g,b);
            b = vScrollBar3.Value;
        }
```

Output:

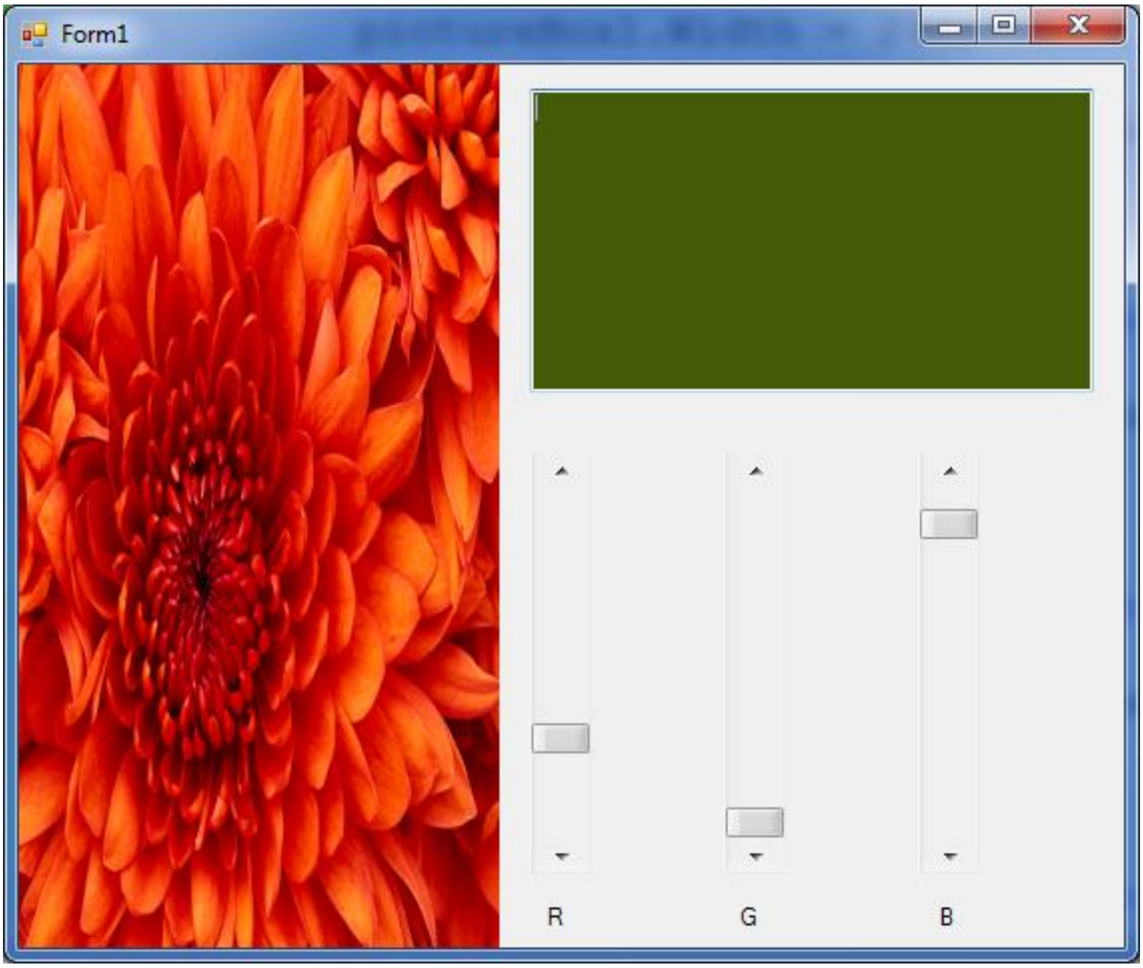


c) scroll bar, Picture box.

Steps:
1.Start Visual Studio 2008
2.Creat Windows Form:- File->New->Project->WindowsFormsApplication.
4.Get Toolbox-> Label.
  Get Toolbox-> 3vScrollBars.
  Get Toolbox-> TextBox.
  Get Toolbox-> PictureBox.
5.Change vscrollbar property->value->25.

```
 public partial class Form1 : Form
    {
        int r, g, b;
        public Form1()
        {
            InitializeComponent();
        }

        private void Form1_Load(object sender, EventArgs e)
        {
pictureBox1.Image = Image.FromFile("C:\\Users\\Public\\Pictures\\Sample Pictures\\Chrysanthemum.jpg");
            pictureBox1.SizeMode = PictureBoxSizeMode.StretchImage;
            pictureBox1.Width = 240;
            pictureBox1.Height = 240;
            pictureBox1.Dock = DockStyle.Left;

        }

private void vScrollBar1_Scroll(object sender, ScrollEventArgs e)
        {
            textBox1.BackColor = Color.FromArgb(r, g, b);
            r = vScrollBar1 .Value;
        }

private void vScrollBar2_Scroll(object sender, ScrollEventArgs e)
        {
            textBox1.BackColor = Color.FromArgb(r, g, b);
            g = vScrollBar2.Value;
        }

private void vScrollBar3_Scroll(object sender, ScrollEventArgs e)
        {
            textBox1.BackColor = Color.FromArgb(r, g, b);
            b = vScrollBar3.Value;
        }
    }
```

Output:



Assignment 13: Demonstrate simple Database Connectivity using Wizard.

Steps:

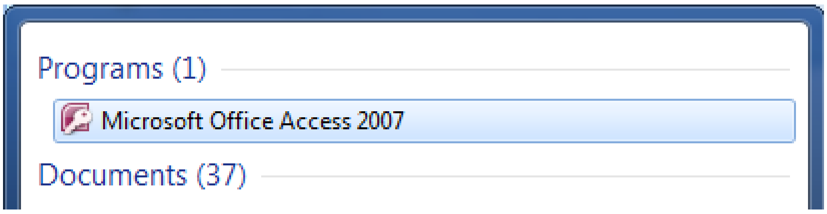
1.Start Visual Studio 2008

2.Creat Windows Form:- File->New->Project->WindowsFormsApplication.

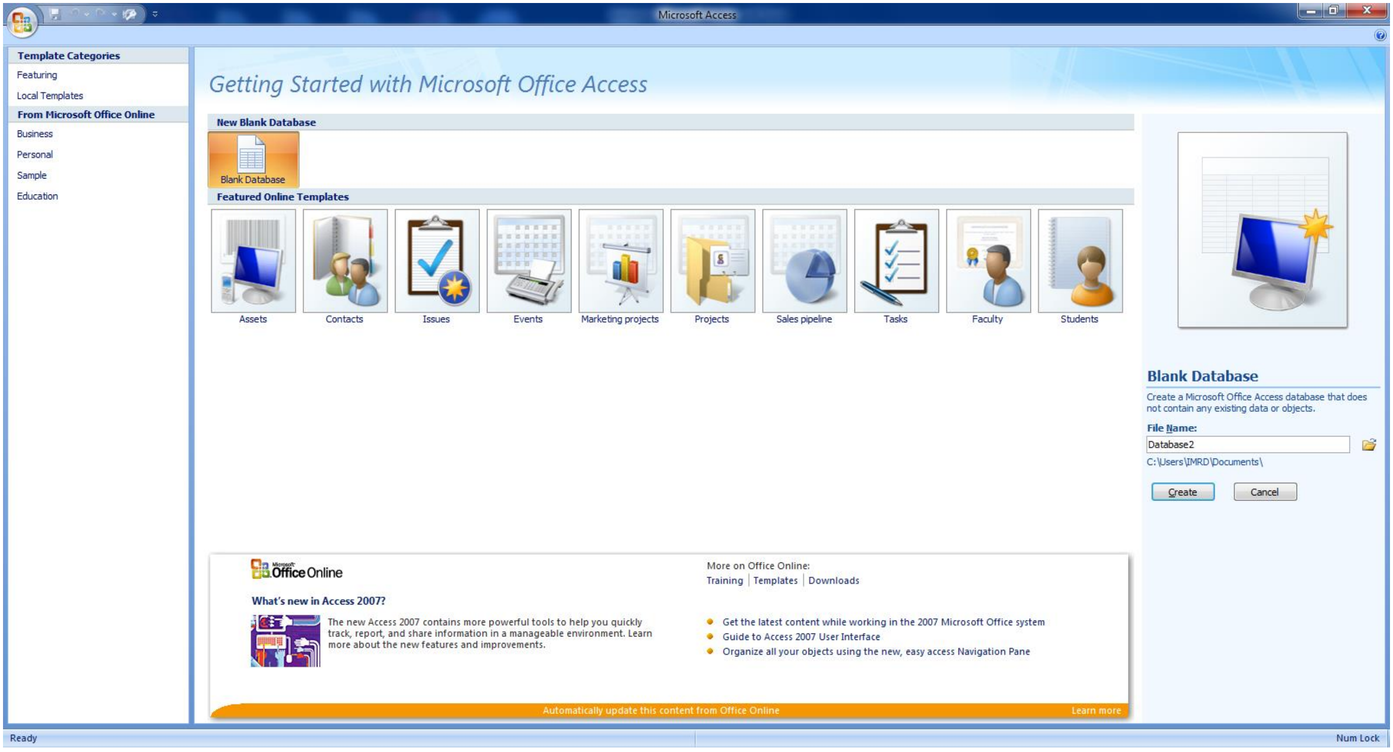
Create a database file.

1 Open start bar.

2 search for the **Microsoft office Access.**



3. open **Microsoft office Access.**



Create a Microsoft Office Access database that does not contain any existing data or objects.

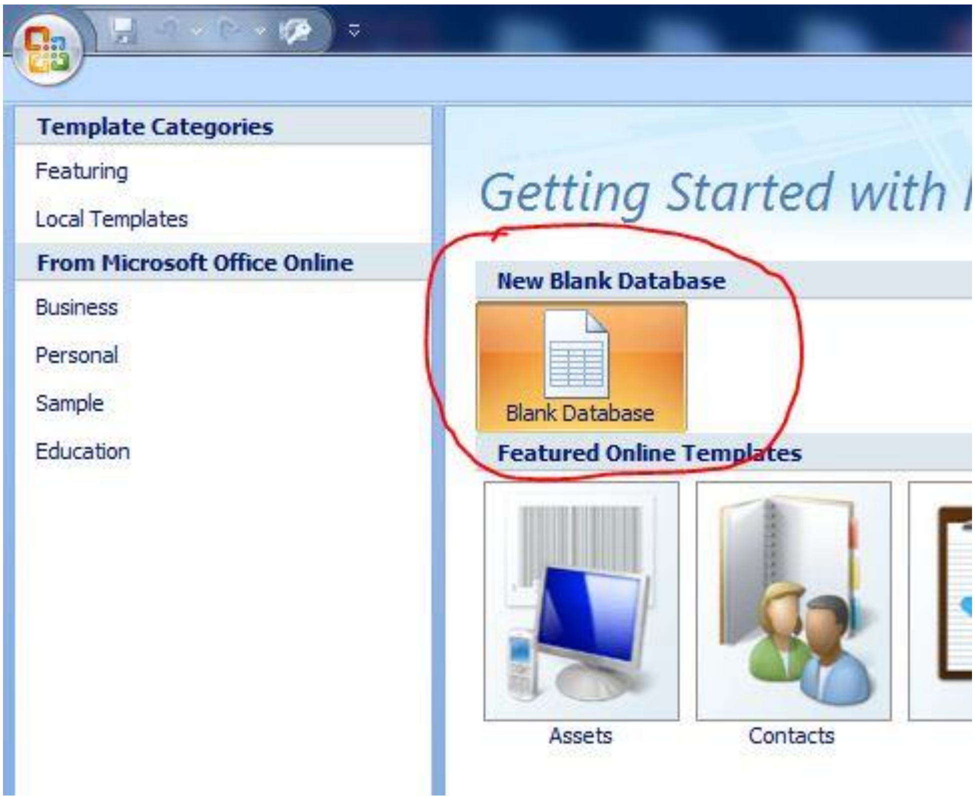
File Name: Database2

C:\Users\IMRD\Documents\

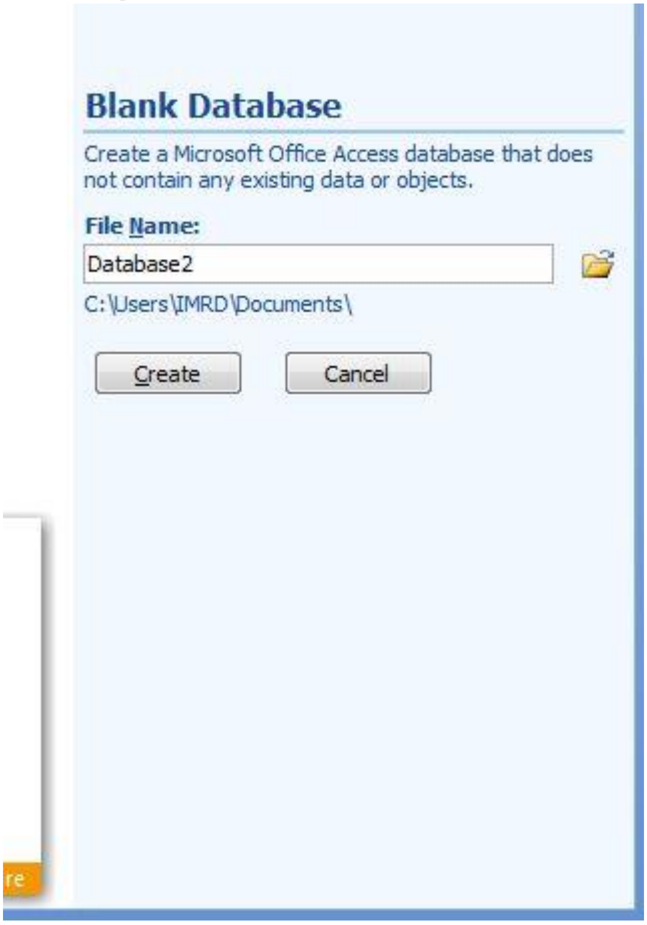
The new Access 2007 contains more powerful tools to help you quickly track, report, and share information in a manageable environment. Learn more about the new features and improvements.

- Get the latest content while working in the 2007 Microsoft Office system
- Guide to Access 2007 User Interface
- Organize all your objects using the new, easy access Navigation Pane

4 Create a blank Database.



5 Change the name and create



Blank Database

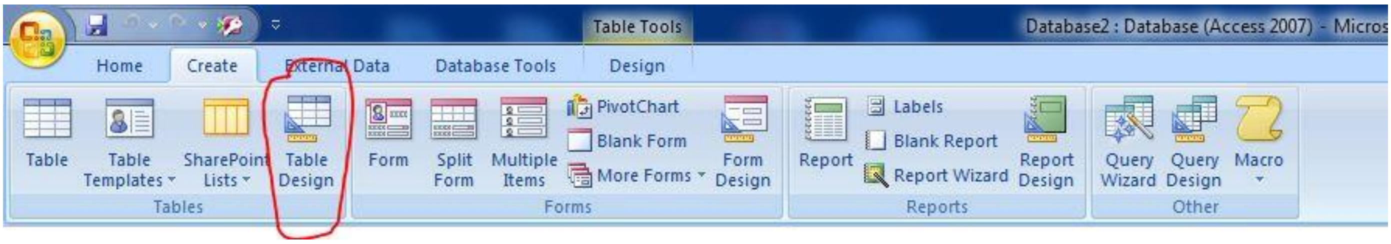
Create a Microsoft Office Access database that does not contain any existing data or objects.

File Name:

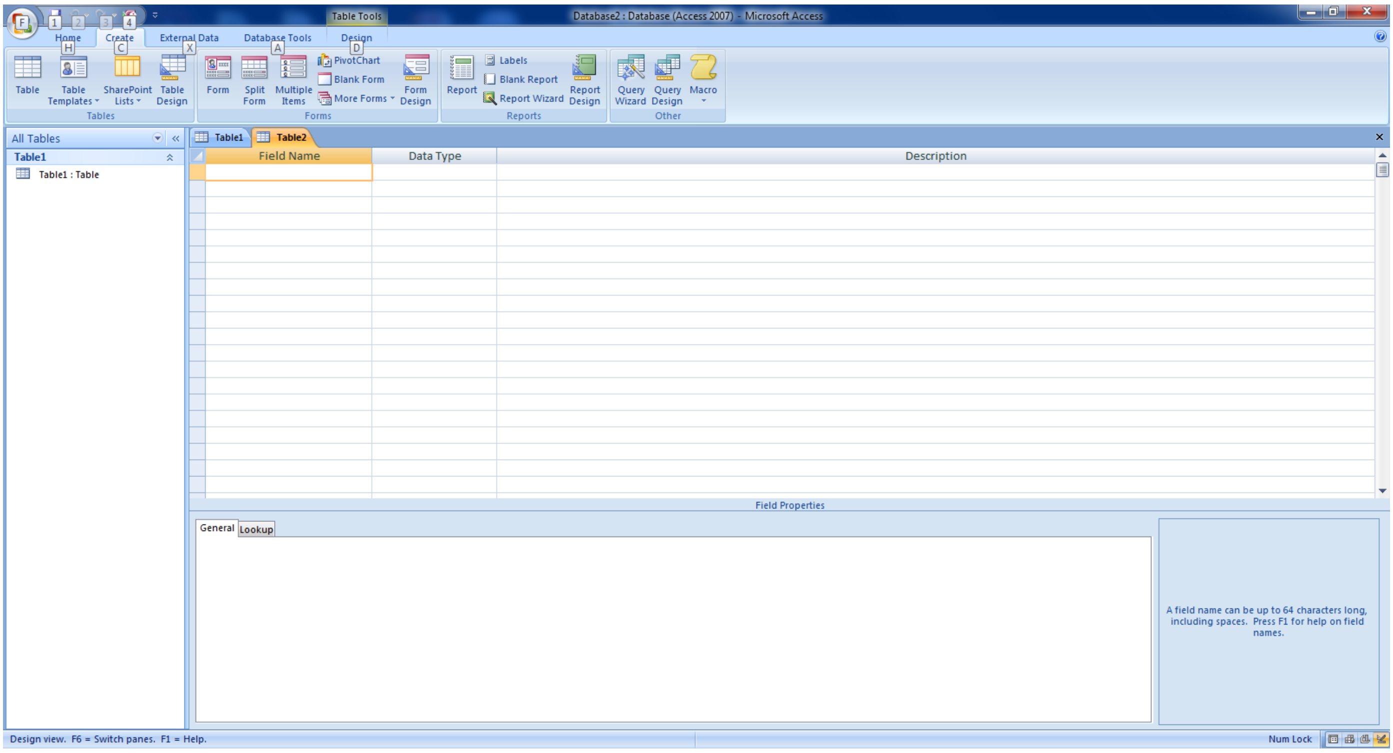
Database2

C:\Users\IMRD\Documents\

6 Go to create tab and click Table design.



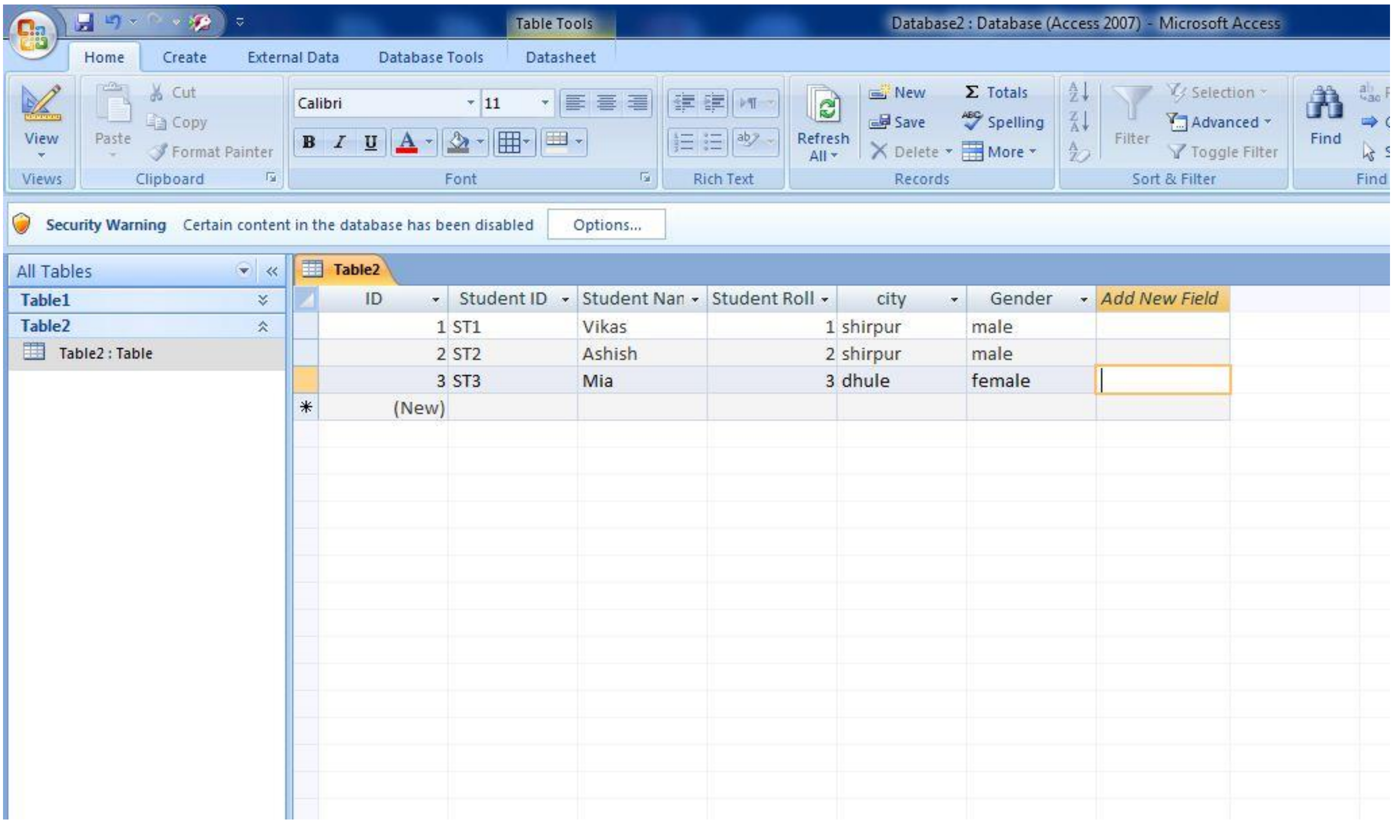
It well look like this



A field name can be up to 64 characters long, including spaces. Press F1 for help on field names.

Design view. F6 = Switch panes. F1 = Help.

8 Now insert data



Security Warning Certain content in the database has been disabled Options...

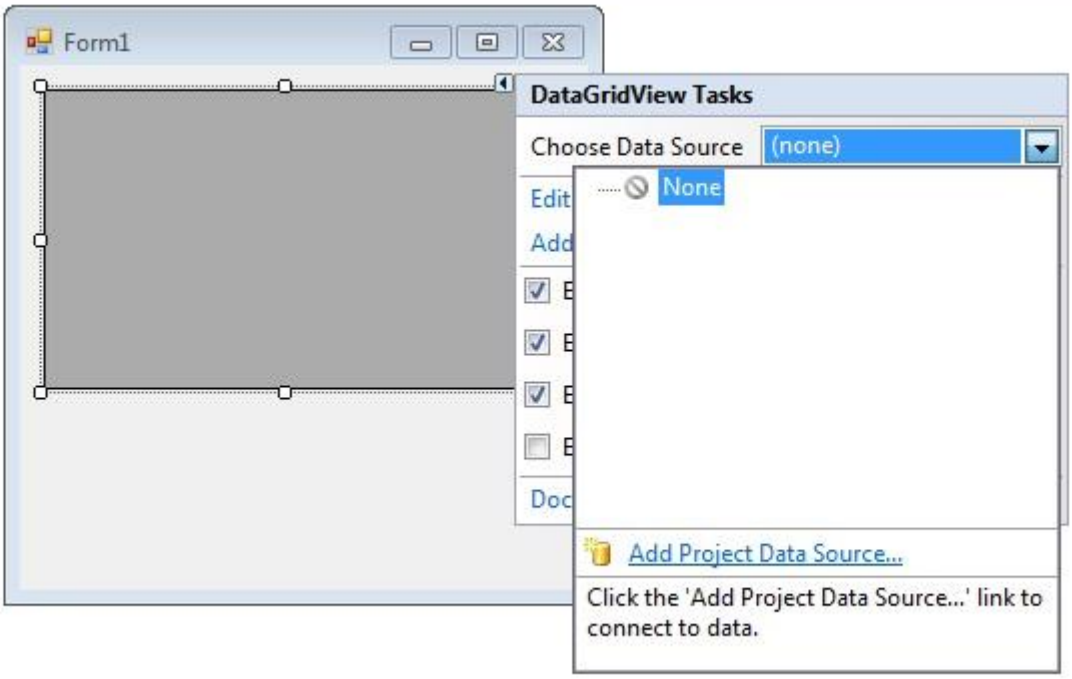
ID	Student ID	Student Nan	Student Roll	city	Gender	Add New Field
1	ST1	Vikas	1	shirpur	male	
2	ST2	Ashish	2	shirpur	male	
3	ST3	Mia	3	dhule	female	
(New)						

9 Save file and close it.

Now database file are created.

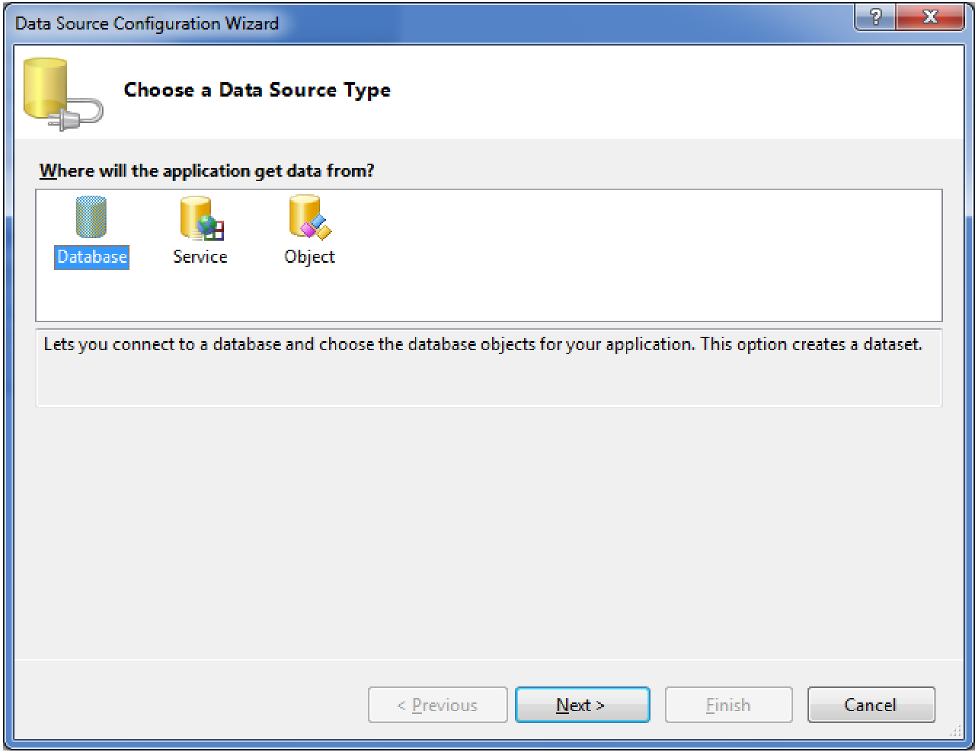
Now link the database file into Visual Studio

Steps:
1.Start Visual Studio 2008
2.Creat Windows Form:- File->New->Project->WindowsFormsApplication.
3.Toolbox->
            Get: DataGridView.



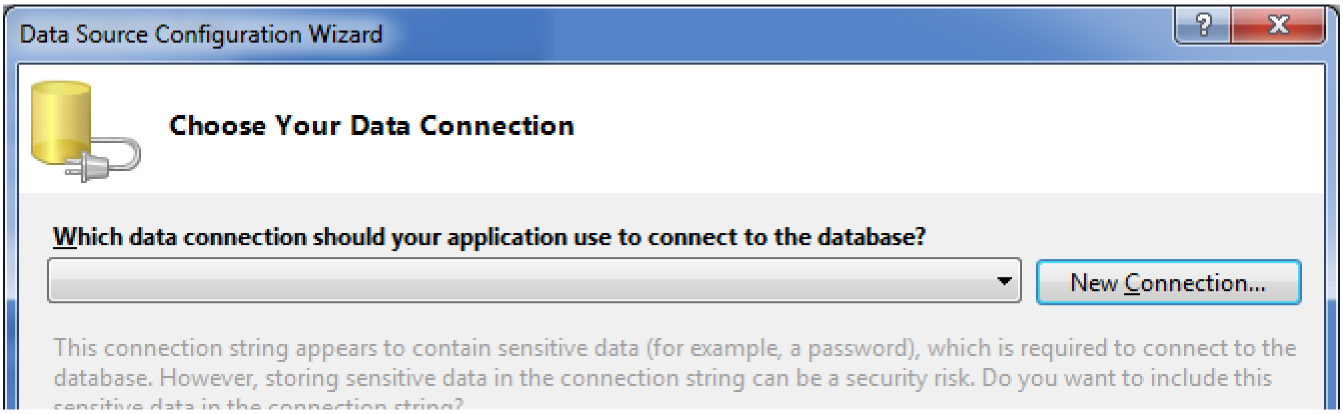
Click the 'Add Project Data Source...' link to connect to data.

Now add the Data file we created.
10) Click to **(Add Project Data Source..)**


Data Source Configuration Wizard
Choose a Data Source Type
Where will the application get data from?
Database
Service
Object
< Previous
Next >
Finish
Cancel

Lets you connect to a database and choose the database objects for your application. This option creates a dataset.

Select the Database and click Next.



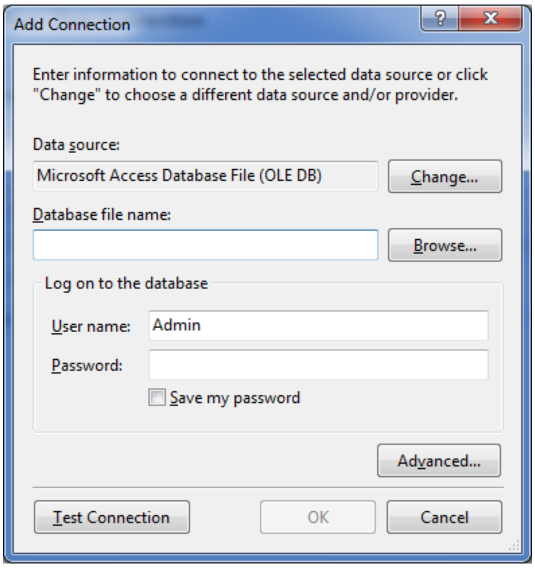
Data Source Configuration Wizard

Choose Your Data Connection

Which data connection should your application use to connect to the database?

This connection string appears to contain sensitive data (for example, a password), which is required to connect to the database. However, storing sensitive data in the connection string can be a security risk. Do you want to include this sensitive data in the connection string?

Click **New Connection..**



Add Connection

Enter information to connect to the selected data source or click "Change" to choose a different data source and/or provider.

Data source: Microsoft Access Database File (OLE DB)

Database file name:

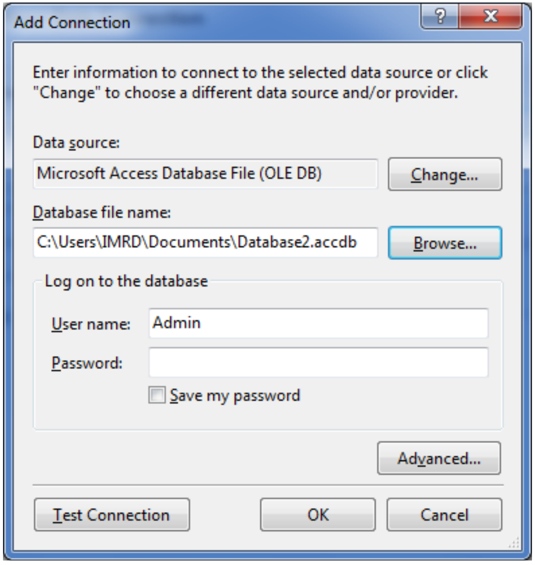
Log on to the database

User name: Admin

Password:

□ Save my password

Then Browse the file you save.



Add Connection

Enter information to connect to the selected data source or click "Change" to choose a different data source and/or provider.

Data source: Microsoft Access Database File (OLE DB)

Database file name: C:\Users\IMRD\Documents\Database2.accdb

Log on to the database

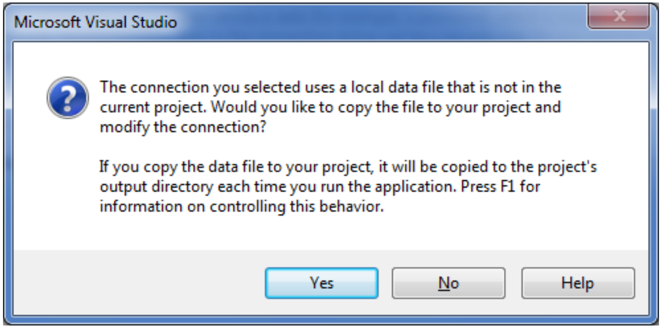
User name: Admin

Password:

□ Save my password

Click ok and click next.

This popup open click yes

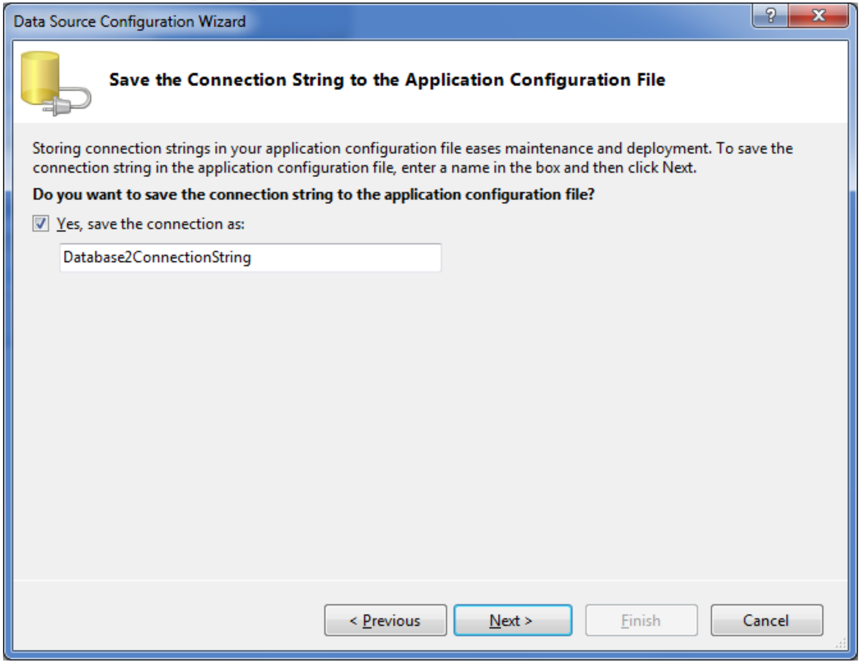


Microsoft Visual Studio

The connection you selected uses a local data file that is not in the current project. Would you like to copy the file to your project and modify the connection?

If you copy the data file to your project, it will be copied to the project's output directory each time you run the application. Press F1 for information on controlling this behavior.

This window open so click next



Save the Connection String to the Application Configuration File

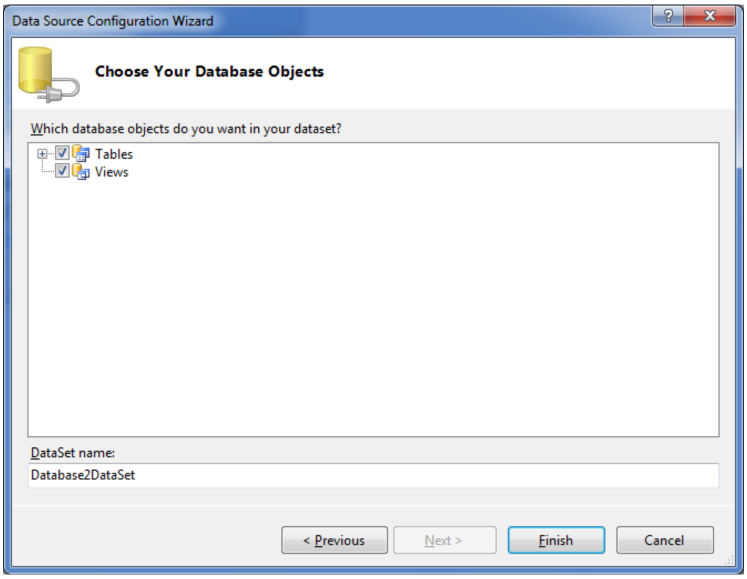
Storing connection strings in your application configuration file eases maintenance and deployment. To save the connection string in the application configuration file, enter a name in the box and then click Next.

Do you want to save the connection string to the application configuration file?

☑ Yes, save the connection as:

Database2ConnectionString

Now check the tables



Choose Your Database Objects

Which database objects do you want in your dataset?

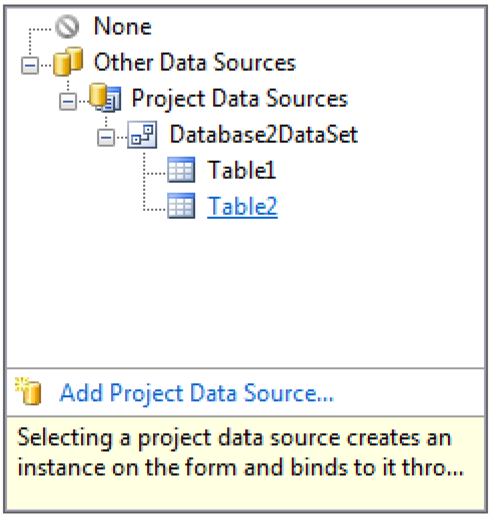
☑ Tables
☑ Views

DataSet name:

Database2DataSet

And click Finish..

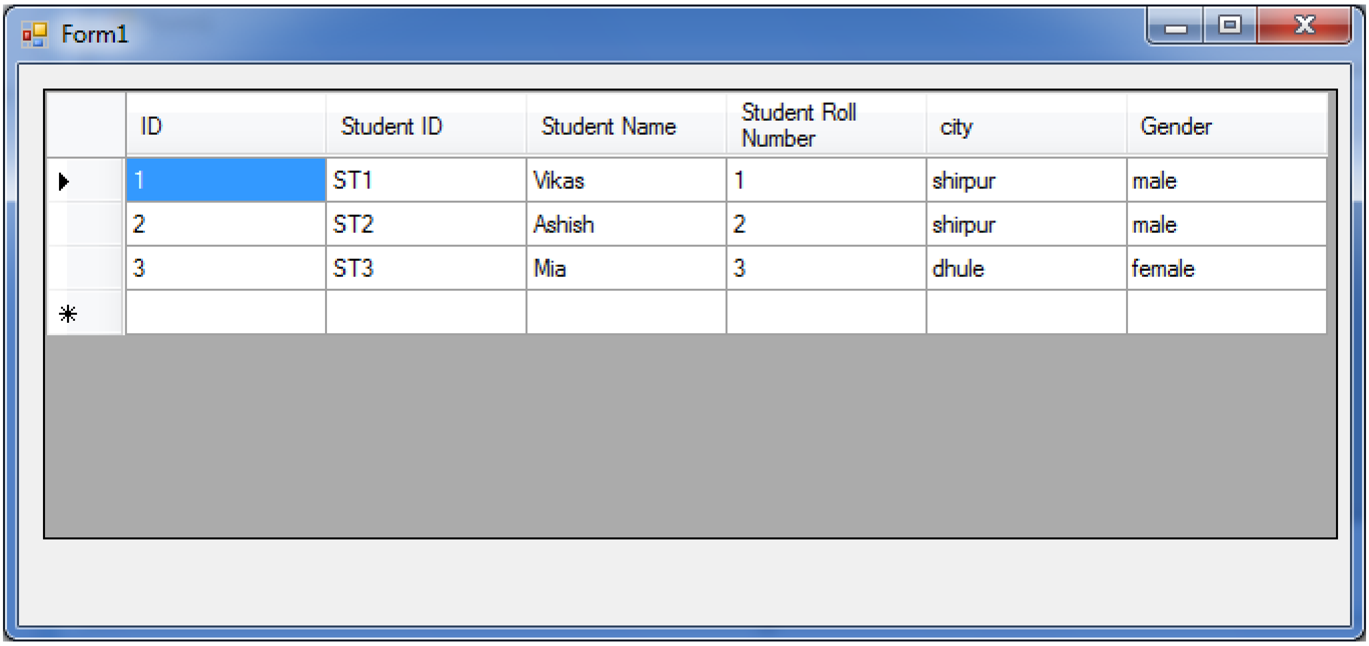
Now select the Table which you enters the data



Selecting a project data source creates an instance on the form and binds to it thro...

Then Run the program-> F5

Output:



	ID	Student ID	Student Name	Student Roll Number	city	Gender
▶	1	ST1	Vikas	1	shirpur	male
	2	ST2	Ashish	2	shirpur	male
	3	ST3	Mia	3	dhule	female
*						

14.Program to find the factorial of given number.

```
  class Program
    {
        static void Main(string[] args)
        {
            int i, num;
            int fact = 1;
            Console.WriteLine("Enter the number==>");
            num = int.Parse(Console.ReadLine());
            for (i = num; i > 0; i--)
            {
                fact = fact * i;
            }
            Console.WriteLine("The Factorial is==>" + fact);
        }
    }
}
```

Output:-

```
Enter the number==>
5
The Factorial is==>120
```

15.Write a Program to Genrate Fibbonaci series.

--

```
    class Program
    {
        static void Main(string[] args)
        {
            int a,b,c,num,i;
            a = 0;
            b = 1;
            c = 0;
            c = a + b;
            Console.WriteLine("Enter the Number for generate the series==>");
            num=int.Parse (Console .ReadLine ());
            Console.WriteLine(a );
            Console.WriteLine(b);
            for (i = 1; i <= num; i++)
            {
                Console.WriteLine(c );
                a = b;
                b = c;
                c = a + b;
            }       }           }         }
```

Output:-

```
Enter the Number for generate the series==>
8
0
1
1
2
3
5
8
13
21
34
Press any key to continue . . .
```

16.Program to Find whether given number is Prime number

```
    class Program
    {
        static void Main(string[] args)
        {
            int num,f=0,i;
            Console.WriteLine("Enter the Number==>");
            num = int.Parse(Console.ReadLine());
            for (i = 2; i < num; i++ )
            {
                if (num % i == 0)
                {
                    f = 1;
                 }

            }
            if (f == 0)
            {
                Console.WriteLine("The Number is prime");
            }
            else
            {
                Console.WriteLine("The Number is not prime");
            }

        }
    }
}
```

Output:-

```
Enter the Number==>
7
The Number is prime
Press any key to continue . . .
```

17.Write a Program to reverese the given Number.

```
    class Program
    {
        static void Main(string[] args)
        {
                        int num,p,c,r;
            Console.WriteLine("Enter number to display it in Reverse ==>");
            num = int.Parse(Console.ReadLine());
            p = num;
            r = 0;
            while (num > 0)
            {
                c =  num%10;
                r= (r*10)+c;
                num = num / 10;

            }
            Console.WriteLine("Reverese Number:=>"+r);

        }
    }
}
```

Output:-

```
Enter number to display it in Reverse ==>
325
Reverese Number:=>523
Press any key to continue . . .
```

18.Write a Program to check the number is palindrome or not.

```
  class Program
  {
     static void Main(string[] args)
     {
        int num,p,c,r;
        Console.WriteLine("Enter the number for checking whether the
                     given number is palindrome or not==>");
        num = int.Parse(Console.ReadLine());
        p = num;
        r = 0;
        while (num > 0)
        {
           c =  num%10;
           r= (r*10)+c;
           num = num / 10;

        }
           if (p == r)

           {
              Console.WriteLine("Number is palindrome");
           }
           else
           {
              Console.WriteLine("Given number is not palindrome");

           }
     }
  }
}
```

Output:-

```
Enter the number for checking whether the given number is palindrome or not==>
121
Number is palindrome
Press any key to continue . . .
Enter the number for checking whether the given number is palindrome or not==>
123
Given number is not palindrome
```

19.Write a Program to Enter three digit number and obtain sum of first and last Digit.

```
    class Program
    {
        static void Main(string[] args)
        {
            int num, sum,n;
            sum = 0;
            Console.WriteLine("Enter Three digit Number ");
            num = int.Parse(Console.ReadLine());
            while (num > 0)
            {
                n = num % 10;
                sum = sum + n;
                num = num / 100;

            }
            Console.WriteLine("Sum of Digit is:=>" +sum);

        }
    }
}
```

Output :-

```
Enter Three digit Number
123
Sum of Digit is:=>4
Press any key to continue . . .
```

20.Write a Program to demonstrate Array element.

```
   class Program
    {
      static void Main(string[] args)
        {                       //Declaring & Creating An Array
            string[] name = new string[3]{"yogesh","sweet","smart"};
            Console.WriteLine(name [0]);
            Console.WriteLine(name[1]);
            Console.WriteLine(name[2]);
```

Output:-

```
 Yogesh
Sweet
smart
```

//Program for Accessing the elements in An Array by using For each

```
            int[] Roll_no = new int[] { 1, 2, 3 };
            foreach (int i in Roll_no)
            {
                Console.WriteLine(i);
            }
```

Output:-

```
        1
        2
        3
```

21.Write a program to use of Constructor and Destructor.

```
    class Demo   // This is the Class
    {
        public Demo(int a) // This is the Constructor with Argument
        {
            Console.WriteLine("The value Of A is==>"+a);
        }
        ~Demo() // This is destructor method
        {
            Console.WriteLine("Destructor called");
        }
    }

class Program
    {
        static void Main(string[] args)
        {
 Demo  c = new Demo (20); // Constractor & Destractor is called  when Object is Created

        }
    }
}
```

Output:-

```
The value Of A is==>20
Destructor called
Press any key to continue . . .
```

22.Write a Program to demonstrate the Constructor Overloading (Overload Minimum 3Constructor)

```
    class Demo
    {
        public Demo(int a)
        {

            Console.WriteLine("value of a is =>" + a);
        }
        public Demo(int a, int b)
        {
            int c;
            c = a + b;
            Console.WriteLine("Addition of two number is =>" + c);
        }
        public Demo (double a,double b)
       {
             double  c;
                         c = a + b;
            Console.WriteLine("Addition of two number is =>" + c);
        }
        ~Demo()
        {
            Console.WriteLine("Destructor Called");
        }
    }
    class Program
    {
        static void Main(string[] args)
        {
            Demo d = new Demo(10);
            Demo d1 = new Demo(10, 20);
            Demo d2 = new Demo(10.5, 20.3);
        }
    }
}
```

Output:

```
 value of a is =>10
 Addition of two number is =>30
 Addition of two number is =>30.8
```

23.Write a Program to Demonstrate unary operator overloading.

```
   class operate
   {
      int a, b, c;
      public operate(int x, int y, int z) //constructor method is created
      {
         a = x;
         b = y;
         c = z;
      }
      public void show()
      {
         Console.WriteLine(a);
         Console.WriteLine(b);
         Console.WriteLine(c);
      }
   public static operate operator -(operate o) //operator method is define
      {
         o.a = -o.a;
         o.b = -o.b;
         o.c = -o.c;
         return (o);
      }
   }
   class Program
   {
      static void Main(string[] args)
      {
         operate s = new operate(10, -20, 10);
         operate s1 = -s;  //- unary operator is overload
         s1.show();
      }
   }
}
```

Output:

```
-10
20
-10
Press any key to continue . . .
```

24.Write a Program to Demonstrate binary operator overloading.

```
   class operate
   {
      int a, b, c;
      public operate(int x, int y, int z) //constructor method is created
      {
         a = x;
         b = y;
         c = z;
      }
      public void show()
      {
         Console.WriteLine(a);
         Console.WriteLine(b);
         Console.WriteLine(c);
      }
      public static operate operator +(operate o, operate p) //operator method is define
      {
         o.a = p.a+o.a;
         o.b = p.b+o.b;
         o.c = p.c+o.c;
         return (o);
      }
   }
   class Program
   {
      static void Main(string[] args)
      {
         operate s = new operate(10, 30, 10);
         operate s1 = new operate(25, 20, 30);
         operate s2 = s+s1;  //binary operator is overload
         s2.show();
      }
   }
}
```

Output:

```
35
50
40
Press any key to continue . . .
```

25.Write a Program to Demonstrate Exception Handling using Throw statement.

```
    class Program
    {
        static void Main(string[] args)
        {
            int a, b, c;
            Console.Write("Enter the first value=>");
            a = int.Parse(Console.ReadLine());
            Console.Write("Enter the Second value=>");
            b = int.Parse(Console.ReadLine());
            try                  // try block in that error can occur
            {
                if (b == 0)
                {
       throw new Exception("You can not Divid by zero"); // throw the exception if b==0
                }
                c = a / b;       // statement which can occur error
                Console.WriteLine("Result is=>" + c);
            }
            catch (Exception obj)       // error catch by catch block
            {
                Console.WriteLine(obj.Message);
                Console.WriteLine("Sorry, you enter wrong value");  // message on error
            }
        }

    }
}
```

Output:

```
Enter the first value=>
15
Enter the Second value=>
0
You can not Divid by zero
Sorry, you enter wrong value
Press any key to continue…
```

26. Program to demonstrate multiple catch block.(divide By zero Exception)

```
class Program
    {
        static void Main(string[] args)
        {
            try
            {
                int a, b, c;
                Console.WriteLine("Enter the first value=>");
                a = int.Parse(Console.ReadLine());
                Console.WriteLine("Enter the Second value=>");
                b = int.Parse(Console.ReadLine());
                c = a / b;
            }
            catch (DivideByZeroException)
            {
                Console.WriteLine("Can not devide by zero number");
            }
            catch (FormatException e)
            {
                Console.WriteLine(e.Message);
                Console.WriteLine("Other exception");
            }
        }
    }
}
```

Output:

```
Enter the first value=>
10
Enter the Second value=>
0
Can not devide by zero number
Press any key to continue…
```

27.Write a Program to Demonstrate Try & Catch & finally Block. (Format Exception)

```
   class Program
   {
      static void Main(string[] args)
      {
         try
         {
            int a;
            Console.WriteLine("enter value of a=");
            a = int.Parse(Console.ReadLine());
            Console.WriteLine("value of a=" + a);
            Console.WriteLine("thank you");
            Console.WriteLine("********************************************");
         }
         catch (FormatException e)
         {
            Console.WriteLine("you enter wrong value");
            Console.WriteLine("********************************************");
            Console.WriteLine(e.Message);
            Console.WriteLine("********************************************");
         }
         finally
         {
            Console.WriteLine("finally block called");
            Console.WriteLine("********************************************");
         }
      }
   }
}
```

Output :-

```
enter value of a=
d
you enter wrong value
********************************************
Input string was not in a correct format.
********************************************
finally block called
********************************************
Press any key to continue . . .
```

28.Write a Program to Demonstrate Try & Multiple Catch & finally Block.

```
    class Program
    {
        static void Main(string[] args)
        {
            try
            {
                int a, b, c;
                Console.WriteLine("enter value of a=");
                a = int.Parse(Console.ReadLine());
                Console.WriteLine("enter value of b=");
                b = int.Parse(Console.ReadLine());
                c = a / b;
                Console.WriteLine("answer=" + c);
                Console.WriteLine("********************************************");
            }
            catch (DivideByZeroException d)
            {
                Console.WriteLine("you enter wrong value");
                Console.WriteLine("********************************************");
                Console.WriteLine(d.Message);
                Console.WriteLine("********************************************");
            }
            catch (OverflowException o)
            {
                Console.WriteLine("you enter wrong value");
                Console.WriteLine("********************************************");
                Console.WriteLine(o.Message);
                Console.WriteLine("********************************************");
            }
           catch (Exception e)
            {
                Console.WriteLine("you enter wrong value");
                Console.WriteLine("********************************************");
                Console.WriteLine(e.Message);
                Console.WriteLine("********************************************");
            }
            finally
            {
                Console.WriteLine("finally block called");
                Console.WriteLine("********************************************");
            }
        }
    }
}
```