Ex.No : 1 NUMERIC WORDS

Date :

AIM :

To create a program for convert Numeric Number into the words.

ALGORITHM :

STEP 1: Start the process.

STEP 2: Open the Switch case

STEP 3: Convert Numeric into words.

STEP 4: Save the program using CS Extension.

STEP 5: Run the program.

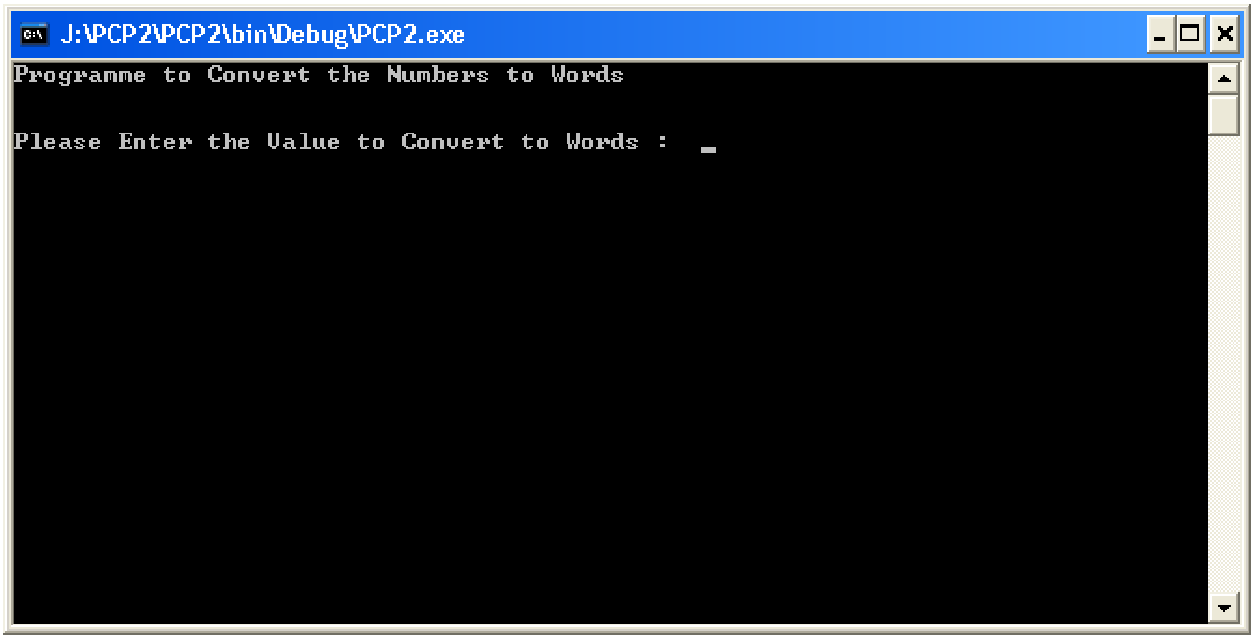
STEP 6: Stop the process

PROGRAM :

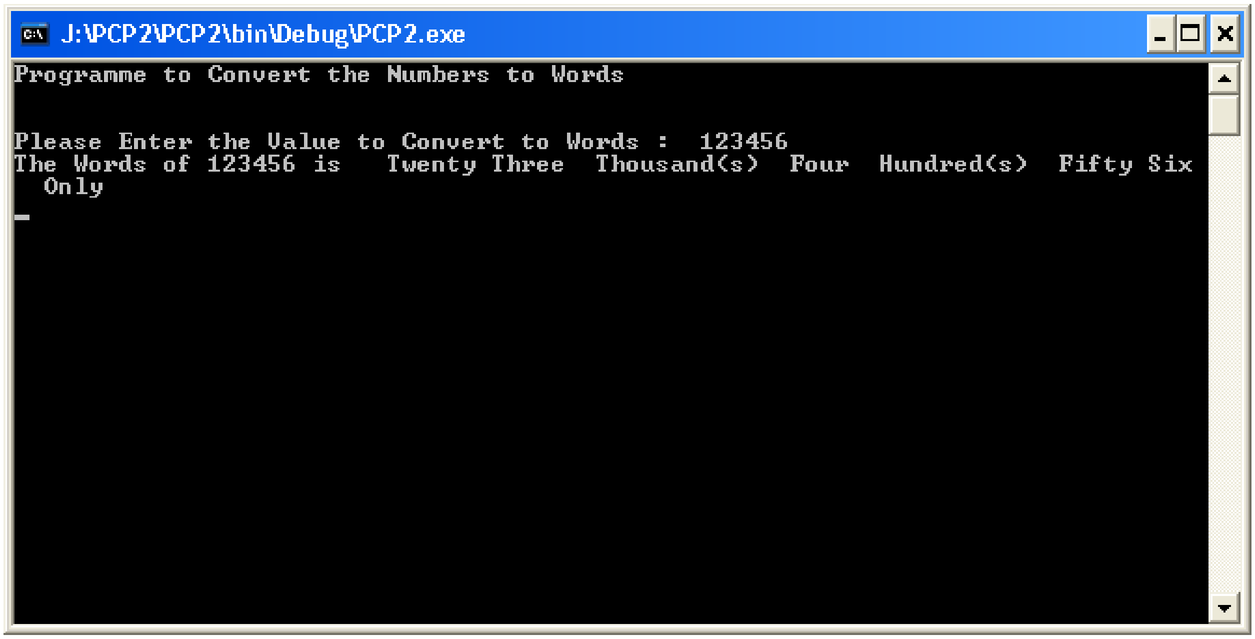
```
using System;
using System.Collections.Generic;
using System.Text;

namespace PCP2
{
    class Program
    {
        public string ToWord(int x)
        {
            switch (x)
            {
                case 90: return "Ninty ";
                case 80: return "Eighty ";
                case 70: return "Seventy ";
                case 60: return "Sixty ";
                case 50: return "Fifty ";
                case 40: return "Fourty ";
                case 30: return "Thirty ";
                case 20: return "Twenty ";
                case 19: return "Ninteen ";
                case 18: return "Eighteen ";
                case 17: return "Seventeen ";
                case 16: return "Sixteen ";
                case 15: return "Fifteen ";
                case 14: return "Fourteen ";
                case 13: return "Thirteen ";
                case 12: return "Twelve ";
                case 11: return "Elevan ";
                case 10: return "Ten ";
                case 9: return "Nine ";
                case 8: return "Eight ";
                case 7: return "Seven ";
                case 6: return "Six ";
                case 5: return "Five ";
                case 4: return "Four ";
                case 3: return "Three ";
                case 2: return "Two ";
                case 1: return "One ";
                default: return string.Empty;
            }

        }
        public string ToWords(int Y, string W)
        {
            string RES = " ";
            if (Y > 20)
            {
                RES += ToWord((Convert.ToInt32(Y) / 10) * 10);
                RES += ToWord(Convert.ToInt32(Y % 10));
            }
            else if (Y > 0)
                RES += ToWord(Convert.ToInt32(Y));
            if (RES.Length > 5)
```

```
                return RES + " " + W;
            else
                return string.Empty;
        }

        static void Main(string[] args)
        {
            double A, Y;
            int x;
            string RES = " ";
            Program TW = new Program();

            Console.WriteLine("Programme to Convert the Numbers to Words");
            Console.Write("\n\nPlease Enter the Value to Convert to Words :
");
            Double.TryParse(Console.ReadLine(), out A);

            Y = A;
            x = Convert.ToInt32(Math.Floor(Y / 10000000.00));
            Y = Y % 10000000.00;
            RES += TW.ToWords(x, "Crore(s) ");

            x = Convert.ToInt32(Math.Floor(Y / 100000.00));
            Y = Y % 100000.00;
            RES += TW.ToWords(x, "Lakh(s) ");

            x = Convert.ToInt32(Math.Floor(Y / 1000.00));
            Y = Y % 1000.00;
            RES += TW.ToWords(x, "Thousand(s) ");

            x = Convert.ToInt32(Math.Floor(Y / 100.00));
            Y = Y % 100.00;
            RES += TW.ToWords(x, "Hundred(s) ");
            RES += TW.ToWords(Convert.ToInt32(Y), " Only");



            Console.WriteLine("The Words of {0} is {1}", A, RES);
            Console.ReadKey();
        }
    }
}
```

OUTPUT:



```
Programme to Convert the Numbers to Words

Please Enter the Value to Convert to Words :  _
```



```
Programme to Convert the Numbers to Words


Please Enter the Value to Convert to Words :  123456
The Words of 123456 is    Twenty Three  Thousand(s)  Four   Hundred(s)   Fifty Six
  Only
_
```

RESULT:

Hence the program is successfully executed and the output is verified.

Ex.No : 2 BUBBLE SORT

Date :

AIM :

To create a program for Sorting Numbers.

ALGORITHM :

STEP 1: Start the process

STEP 2: Open the arguments, class and objects.

STEP 3: Open array for Sorting the numbers.

STEP 4: Save the program.

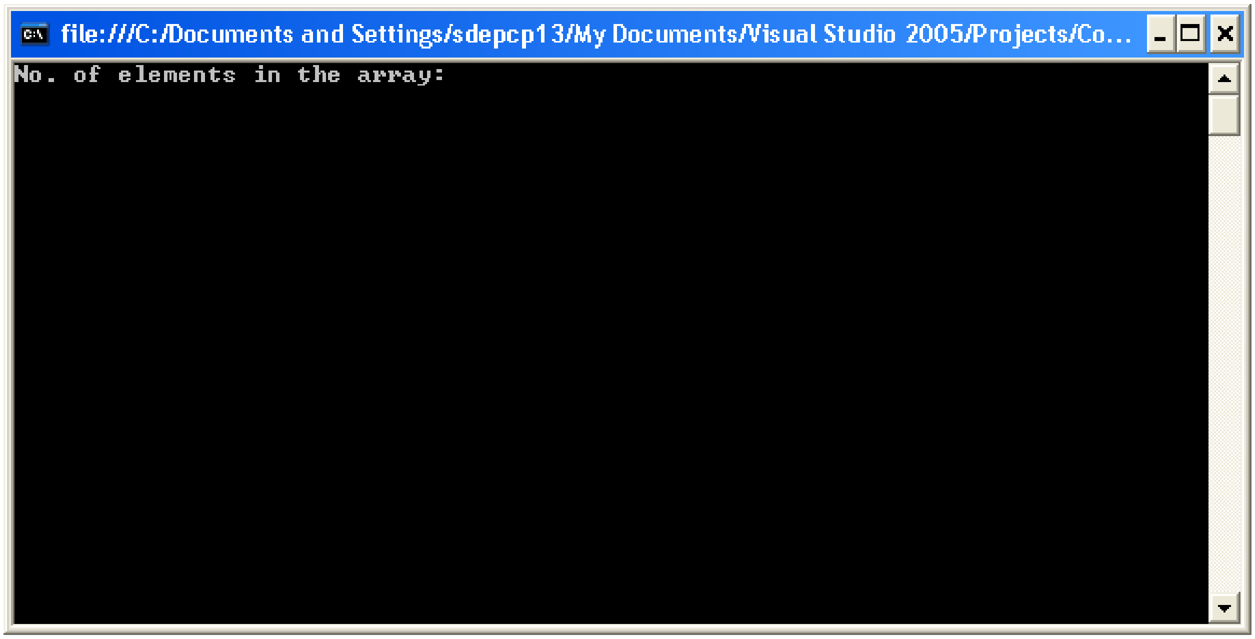
STEP 5: Run the program.

STEP 6: Stop the program.

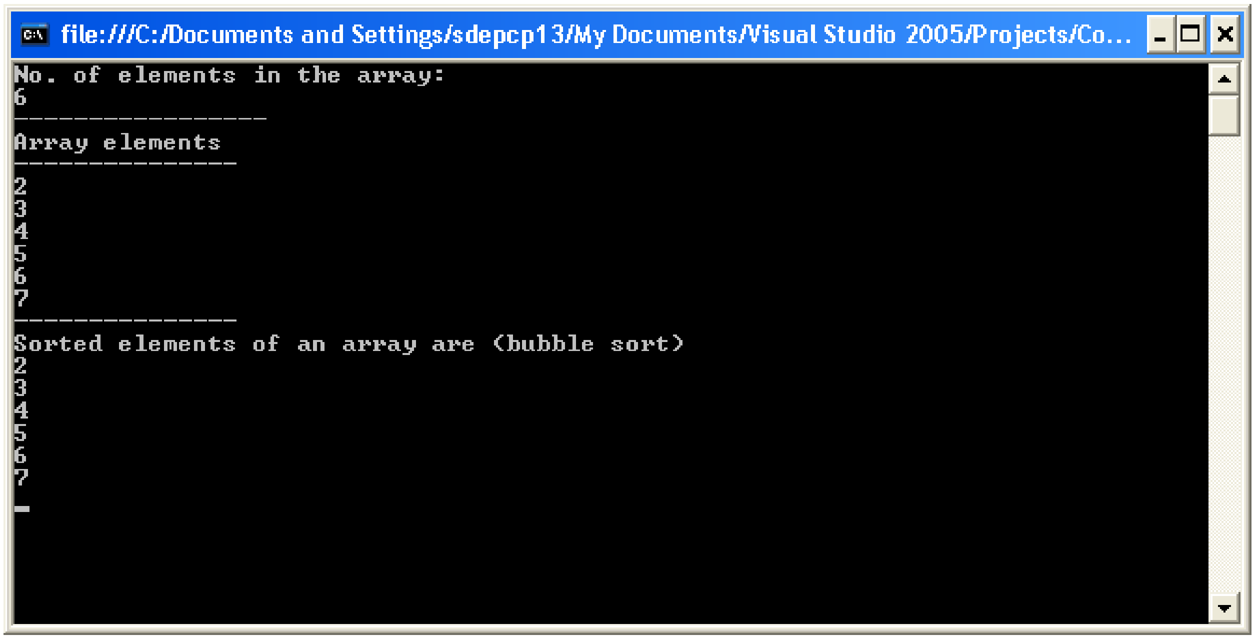
PROGRAM :

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

namespace BubbleSort2
{
    class Bubblesort
    {
        public static void Main()
        {
            int[] a = new int[100];
            Console.WriteLine("No. of elements in the array:");
            string s = Console.ReadLine();
            int x = Int32.Parse(s);
            Console.WriteLine("-----------------");
            Console.WriteLine("Array elements ");
            Console.WriteLine("---------------");
            for (int j = 0; j < x; j++)
            {
                string s1 = Console.ReadLine();
                a[j] = Int32.Parse(s1);
            }
            int limit = x - 1;
            for (int pass = 0; pass < x - 1; pass++)
            {
                for(int j=0;j<limit-pass ;j++)
                {

                    if (a[j] > a[j + 1])
                    {
                        int k = a[j];
                        a[j] = a[j + 1];
                        a[j + 1] = k;

                    }
            }
        }
        Console.WriteLine("---------------");
        Console.WriteLine("Sorted elements of an array are (bubble sort)");
        for (int j = 0; j < x; j++)
            Console.WriteLine(a[j]);
        Console.Read();




        }
    }
}
```

OUTPUT:


file:///C:/Documents and Settings/sdepcp13/My Documents/Visual Studio 2005/Projects/Co...

```
No. of elements in the array:
```


file:///C:/Documents and Settings/sdepcp13/My Documents/Visual Studio 2005/Projects/Co...

```
No. of elements in the array:
6
-----------------
Array elements
---------------
2
3
4
5
6
7
---------------
Sorted elements of an array are (bubble sort)
2
3
4
5
6
7
_
```

RESULT:

Hence the program is successfully executed and the output is verified.

Ex.No : 3

MATRIX MULTIPLICATION

Date :

AIM :

To create a program for Matrix Multiplication.

ALGORITHM:

STEP 1: Start the process

STEP 2: Declare the variables.

STEP 3: Create Matrix operation.

STEP 4: Save the program.

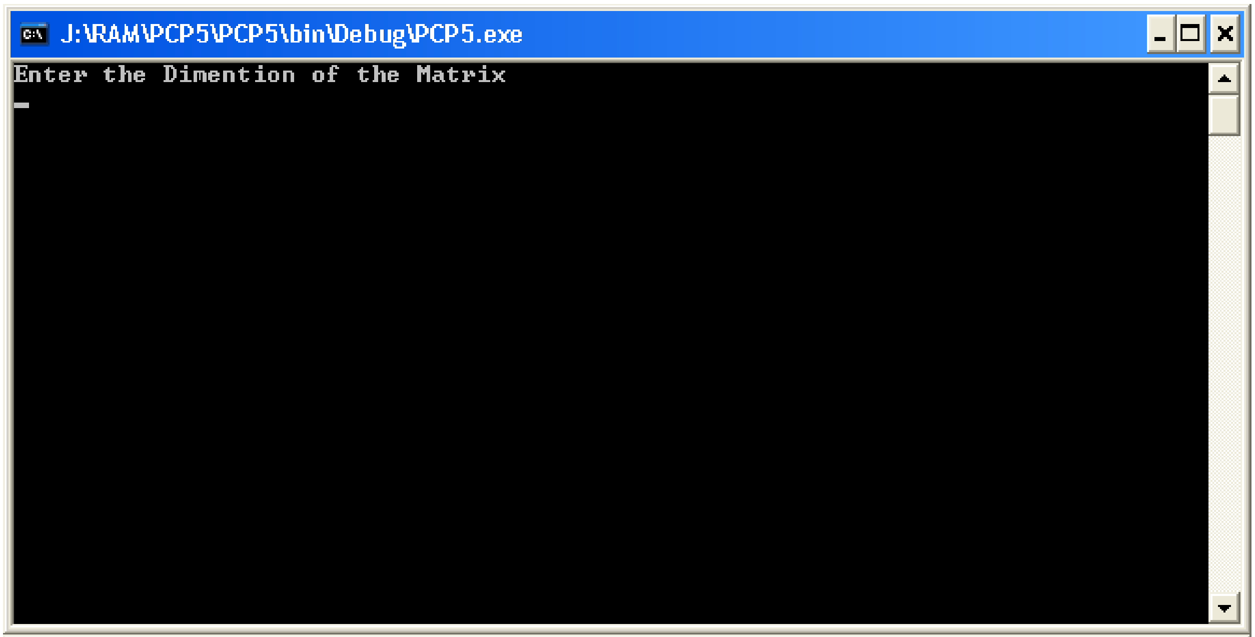
STEP 5: Run the program.

STEP 6: Stop the program.

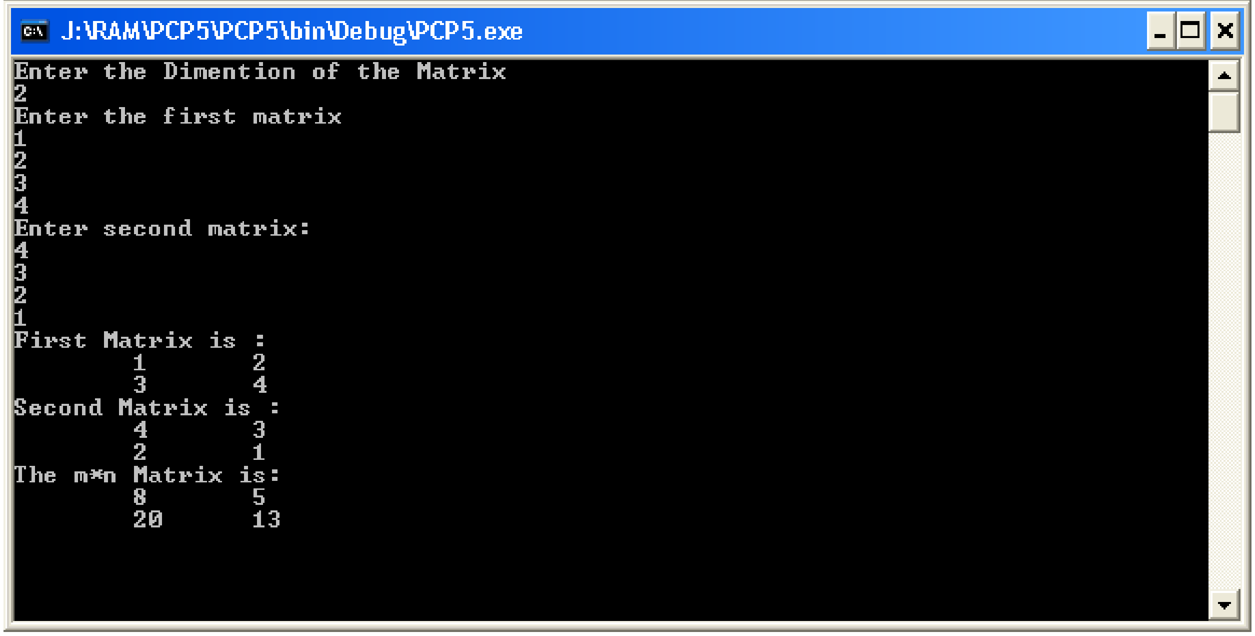
PROGRAM :

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

namespace PCP5
{
    class Program
    {
        static void Main(string[] args)
        {
            int i, j, k, n;
            Console.WriteLine("Enter the Dimention of the Matrix");
            Int32.TryParse(Console.ReadLine(), out n);
            Console.WriteLine("Enter the first matrix");
            int[,] a = new int[n, n];
            for (i = 0; i < n; i++)
                for (j = 0; j < n; j++)
                    Int32.TryParse(Console.ReadLine(), out a[i, j]);

            Console.WriteLine("Enter second matrix:");
            int[,] b = new int[n, n];
            for (i = 0; i < n; i++)
                for (j = 0; j < n; j++)
                    Int32.TryParse(Console.ReadLine(), out b[i,j]);

            Console.WriteLine("First Matrix is :");
            for (i = 0; i < n; i++)
            {
                for (j = 0; j < n; j++)
                    Console.Write("\t"+ a[i, j]);
                Console.WriteLine();
            }
            Console.WriteLine("Second Matrix is :");

            for (i = 0; i < n; i++)
            {
                for (j = 0; j < n; j++)
                    Console.Write("\t" + b[i, j]);
                Console.WriteLine();
            }
            int[,] c = new int[n, n];
            for (i = 0; i < n; i++)
            {
                for (j = 0; j < n; j++)
                {
                    c[i, j] = 0;
                    for (k = 0; k < n; k++)
                    {
                        c[i, j] += a[i, k] * b[k, j];
                    }
                }
            }
            Console.WriteLine("The m*n Matrix is:");
            for (i = 0; i < n; i++)
            {
                for (j = 0; j < n; j++)
                    Console.Write("\t" + c[i, j] );
                Console.WriteLine();
            }
            Console.ReadKey();
        }
    }
}
```

OUTPUT :



```
Enter the Dimention of the Matrix
_
```



```
Enter the Dimention of the Matrix
2
Enter the first matrix
1
2
3
4
Enter second matrix:
4
3
2
1
First Matrix is :
        1       2
        3       4
Second Matrix is :
        4       3
        2       1
The m*n Matrix is:
        8       5
        20      13
```

RESULT:

Hence the program is successfully executed and the output is verified.

Ex.No : 4 STRUCTURE

Date :

AIM :

To create a Structure program for Student details.

ALGORITHM :

STEP 1: Start the process.

STEP 2: Create a Structure.

STEP 3: Open the class and arguments.

STEP 4: Save the program.

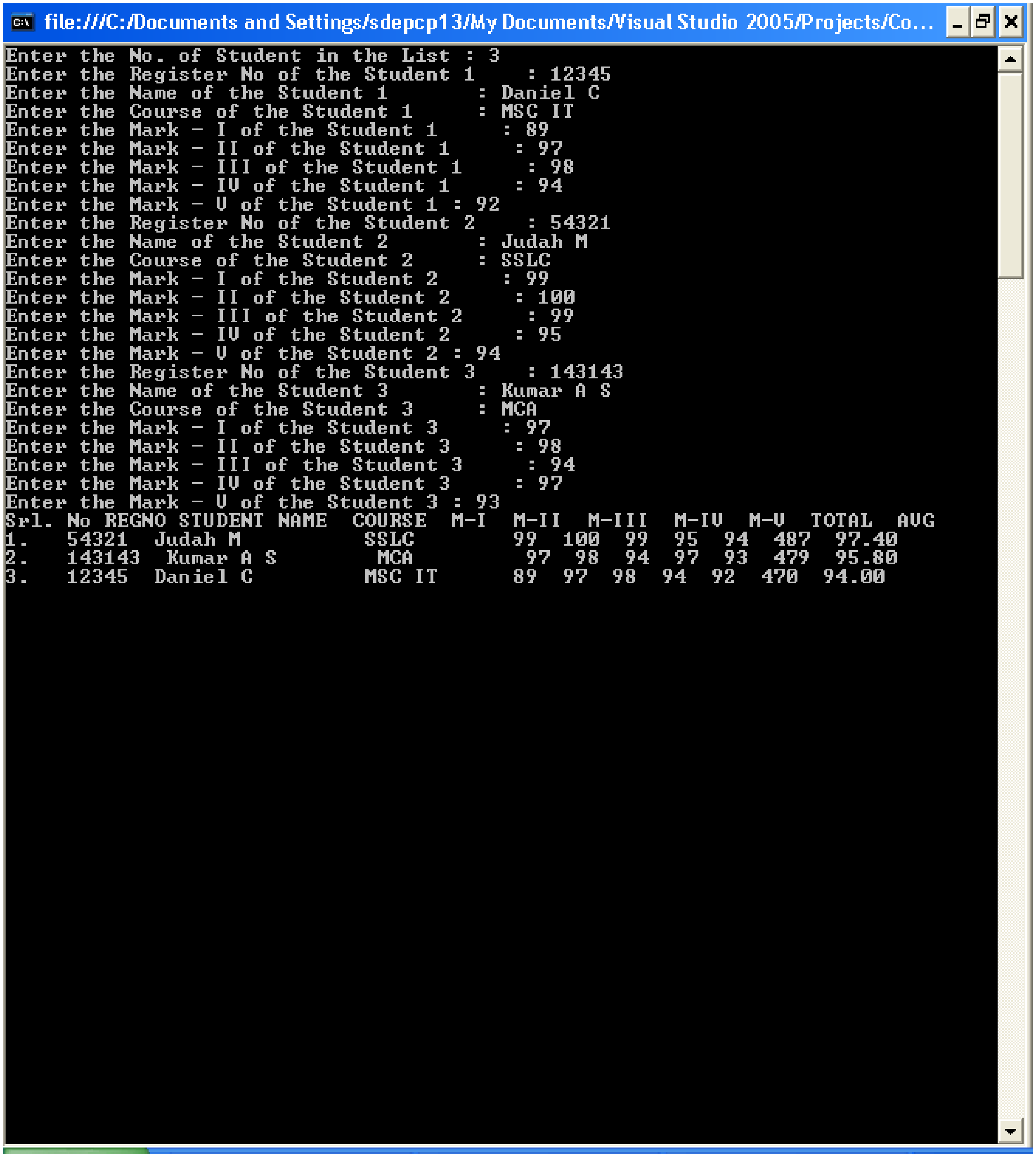
STEP 5: Run the program

STEP 6: Stop the program.

PROGRAM:

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

namespace PCP9
{
    struct STUDENT
    {
        public string REGNO, STUDNAME, COURSE;
        public double M1, M2, M3, M4, M5, TOTAL, AVGS;
    }
    class Program
    {
        static void Main(string[] args)
        {
            STUDENT[] STUD;
            STUDENT T;
            int N;

            Console.Write("Enter the No. of Student in the List : ");
            Int32.TryParse(Console.ReadLine(), out N);
            STUD = new STUDENT[N];

            for (int i = 0; i < N; i++)
            {
                      Console.Write("Enter the Register No of the Student {0}
      : ", i + 1);
                STUD[i].REGNO = Console.ReadLine();
                      Console.Write("Enter the Name of the Student {0}
      : ", i + 1);
                STUD[i].STUDNAME = Console.ReadLine();
                      Console.Write("Enter the Course of the Student {0}
      : ", i + 1);
                STUD[i].COURSE = Console.ReadLine();
                      Console.Write("Enter the Mark - I of the Student {0}
      : ", i + 1);
                      Double.TryParse(Console.ReadLine(), out STUD[i].M1);
                      Console.Write("Enter the Mark - II of the Student {0}
      : ", i + 1);
                Double.TryParse(Console.ReadLine(), out STUD[i].M2);
                      Console.Write("Enter the Mark - III of the Student {0}
      : ", i + 1);
                Double.TryParse(Console.ReadLine(), out STUD[i].M3);
                      Console.Write("Enter the Mark - IV of the Student {0}
      : ", i + 1);
                Double.TryParse(Console.ReadLine(), out STUD[i].M4);
                      Console.Write("Enter the Mark - V of the Student {0} :
      ", i + 1);
                Double.TryParse(Console.ReadLine(), out STUD[i].M5);
                      STUD[i].TOTAL = STUD[i].M1 + STUD[i].M2 + STUD[i].M3 +
      STUD[i].M4 + STUD[i].M5;
                      STUD[i].AVGS = STUD[i].TOTAL / 5.0;

            }
            for (int i = 0; i < N; i++)
                for (int j = i + 1; j < N; j++)
                    if (STUD[i].AVGS < STUD[j].AVGS)
                    {
                        T = STUD[i];
                        STUD[i] = STUD[j];
                        STUD[j] = T;
                    }

            Console.WriteLine("Srl. No REGNO STUDENT NAME  COURSE  M-I  M-II
      M-III  M-IV  M-V  TOTAL  AVG");
                  for (int i = 0; i < N; i++)
            {
                      Console.WriteLine(i + 1 + ".   " +
      STUD[i].REGNO.PadRight(5) + "  " + STUD[i].STUDNAME.PadRight(15) + "  "
      + STUD[i].COURSE.PadRight(10) + "  " + STUD[i].M1 + "  " + STUD[i].M2 +
      "  " + STUD[i].M3 + "  " + STUD[i].M4 + "  " + STUD[i].M5 + "  " +
      STUD[i].TOTAL.ToString("000") + "  " + STUD[i].AVGS.ToString("00.00"));
            }
            Console.ReadKey();
        }
    }
}
```

OUTPUT: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```
Enter the No. of Student in the List : 3
Enter the Register No of the Student 1    : 12345
Enter the Name of the Student 1       : Daniel C
Enter the Course of the Student 1     : MSC IT
Enter the Mark - I of the Student 1     : 89
Enter the Mark - II of the Student 1     : 97
Enter the Mark - III of the Student 1     : 98
Enter the Mark - IV of the Student 1     : 94
Enter the Mark - V of the Student 1 : 92
Enter the Register No of the Student 2    : 54321
Enter the Name of the Student 2       : Judah M
Enter the Course of the Student 2     : SSLC
Enter the Mark - I of the Student 2     : 99
Enter the Mark - II of the Student 2     : 100
Enter the Mark - III of the Student 2     : 99
Enter the Mark - IV of the Student 2     : 95
Enter the Mark - V of the Student 2 : 94
Enter the Register No of the Student 3    : 143143
Enter the Name of the Student 3       : Kumar A S
Enter the Course of the Student 3     : MCA
Enter the Mark - I of the Student 3     : 97
Enter the Mark - II of the Student 3     : 98
Enter the Mark - III of the Student 3     : 94
Enter the Mark - IV of the Student 3     : 97
Enter the Mark - V of the Student 3 : 93
Srl. No REGNO STUDENT NAME  COURSE  M-I  M-II  M-III  M-IV  M-V  TOTAL  AVG
1.   54321  Judah M          SSLC        99  100  99  95  94  487  97.40
2.   143143  Kumar A S        MCA         97  98  94  97  93  479  95.80
3.   12345  Daniel C         MSC IT      89  97  98  94  92  470  94.00
```

RESULT:

Hence the program is successfully executed and the output is verified.

Ex.No : 5 FUNCTION OVERLOADING

Date :

AIM :

To create a program for Arithmetic operations using Function Overloading.

ALGORITHM :

STEP 1: Start the process.

STEP 2: Create Function Overloading methods.

STEP 3: Declare the variables and objects.

STEP 4: Save the program

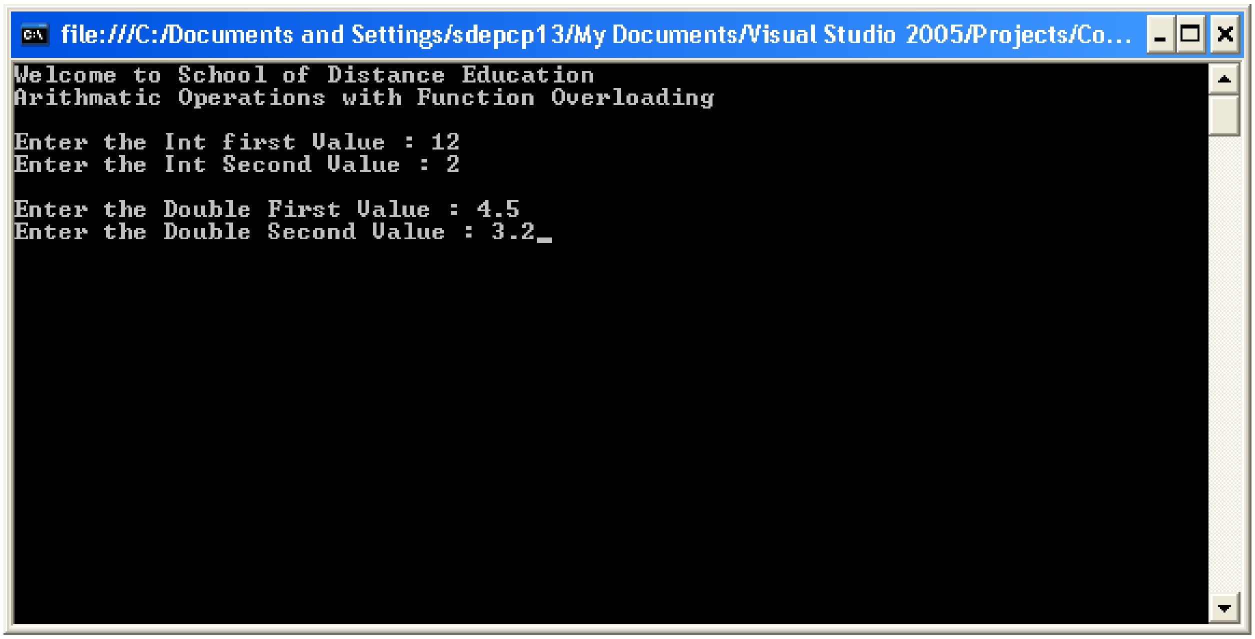
STEP 5: Run the program

STEP 6: Stop the process.

PROGRAM:

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

namespace PCP1
{
    class Arth
    {
        public void Add(int x, int y)
        {
            Console.WriteLine("The Addition of Two Integer Numbers are {0} +
{1} = {2}", x, y, x + y);
        }

        public void Add(double x, double y)
        {
            Console.WriteLine("The Addition of Two Double Numbers are {0} +
{1} = {2}", x, y, x + y);
        }
        public void Add(double x, int y)
        {
            Console.WriteLine("The Addition of Double and Integer Numbers are
{0} + {1} = {2}", x, y, x + Convert.ToDouble(y));
        }
        public void Add(int x, double y)
        {
            Console.WriteLine("The Addition of Double and Integer Numbers are
{0} + {1} = {2}", x, y, Convert.ToDouble(x) + y);
        }


        public void Subtract(int x, int y)
        {
            Console.WriteLine("The Subtraction of Two Integer Numbers are {0}
- {1} = {2}", x, y, x - y);
        }
        public void Subtract(double x, double y)
        {
            Console.WriteLine("The Subtraction of Two Double Numbers are {0}
- {1} = {2}", x, y, x - y);
        }
        public void Subtract(double x, int y)
        {
            Console.WriteLine("The Subtraction of Double and Integer Numbers
are {0} - {1} = {2}", x, y, x - Convert.ToDouble(y));
        }
        public void Subtract(int x, double y)
        {
            Console.WriteLine("The Subtraction of Double and Integer Numbers
are {0} - {1} = {2}", x, y, Convert.ToDouble(x) - y);
        }


        public void Mul(int x, int y)
        {
            Console.WriteLine("The Multiplication of Two Integer Numbers are 
{0} X {1} = {2}", x, y, x * y);
        }
        public void Mul(double x, double y)
        {
            Console.WriteLine("The Multiplication of Two Double Numbers are 
{0} X {1} = {2}", x, y, x * y);
        }
        public void Mul(double x, int y)
        {
            Console.WriteLine("The Multiplication of Double and Integer 
Numbers are {0} X {1} = {2}", x, y, x * Convert.ToDouble(y));
        }
        public void Mul(int x, double y)
        {
            Console.WriteLine("The Multiplication of Double and Integer 
Numbers are {0} X {1} = {2}", x, y, Convert.ToDouble(x) * y);
        }


        public void Div(int x, int y)
        {
            Console.WriteLine("The Division of Two Numbers are {0} / {1} = 
{2}", x, y, x / y);
        }
        public void Div(double x, double y)
        {
            Console.WriteLine("The Division of Two Numbers are {0} / {1} = 
{2}", x, y, x / y);
        }
        public void Div(double x, int y)
        {
            Console.WriteLine("The Division of Double and Integer Numbers are 
{0} / {1} = {2}", x, y, x / Convert.ToDouble(y));
        }
        public void Div(int x, double y)
        {
            Console.WriteLine("The Division of Double and Integer Numbers are 
{0} / {1} = {2}", x, y, Convert.ToDouble(x) / y);
        }


        static void Main(string[] args)
        {
            int a, b;
            double c, d;
            Arth TEST = new Arth();

            Console.WriteLine("Welcome to School of Distance Education");
            Console.WriteLine("Arithmatic Operations with Function 
Overloading");

            Console.Write("\nEnter the Int first Value : ");
            Int32.TryParse(Console.ReadLine(), out a);
            Console.Write("Enter the Int Second Value : ");
            Int32.TryParse(Console.ReadLine(), out b);
            Console.Write("\nEnter the Double First Value : ");
            Double.TryParse(Console.ReadLine(), out c);
            Console.Write("Enter the Double Second Value : ");
            Double.TryParse(Console.ReadLine(), out d);

Console.WriteLine("\n\n\n====================================================
===================\n\n\n");
            Console.WriteLine("\n\n*****Addition******\n");
            TEST.Add(a, b);
            TEST.Add(c, d);
            TEST.Add(c, b);
            TEST.Add(a, d);

Console.WriteLine("\n\n\n====================================================
===================\n\n\n");
            Console.WriteLine("\n\n****Subtraction****\n");
            TEST.Subtract(a, b);
            TEST.Subtract(c, d);
            TEST.Subtract(c, b);
            TEST.Subtract(a, d);

Console.WriteLine("\n\n\n====================================================
===================\n\n\n");
            Console.WriteLine("\n\n**** Multiplication ****\n");
            TEST.Mul(a, b);
            TEST.Mul(c, d);
            TEST.Mul(c, b);
            TEST.Mul(a, d);

Console.WriteLine("\n\n\n====================================================
===================\n\n\n");
            Console.WriteLine("\n\n**** Divisition ****\n");
            TEST.Div(a, b);
            TEST.Div(c, d);
            TEST.Div(c, b);
            TEST.Div(a, d);

Console.WriteLine("\n\n\n====================================================
===================\n\n\n");
            Console.ReadKey();
        }
    }
}
```

OUTPUT:



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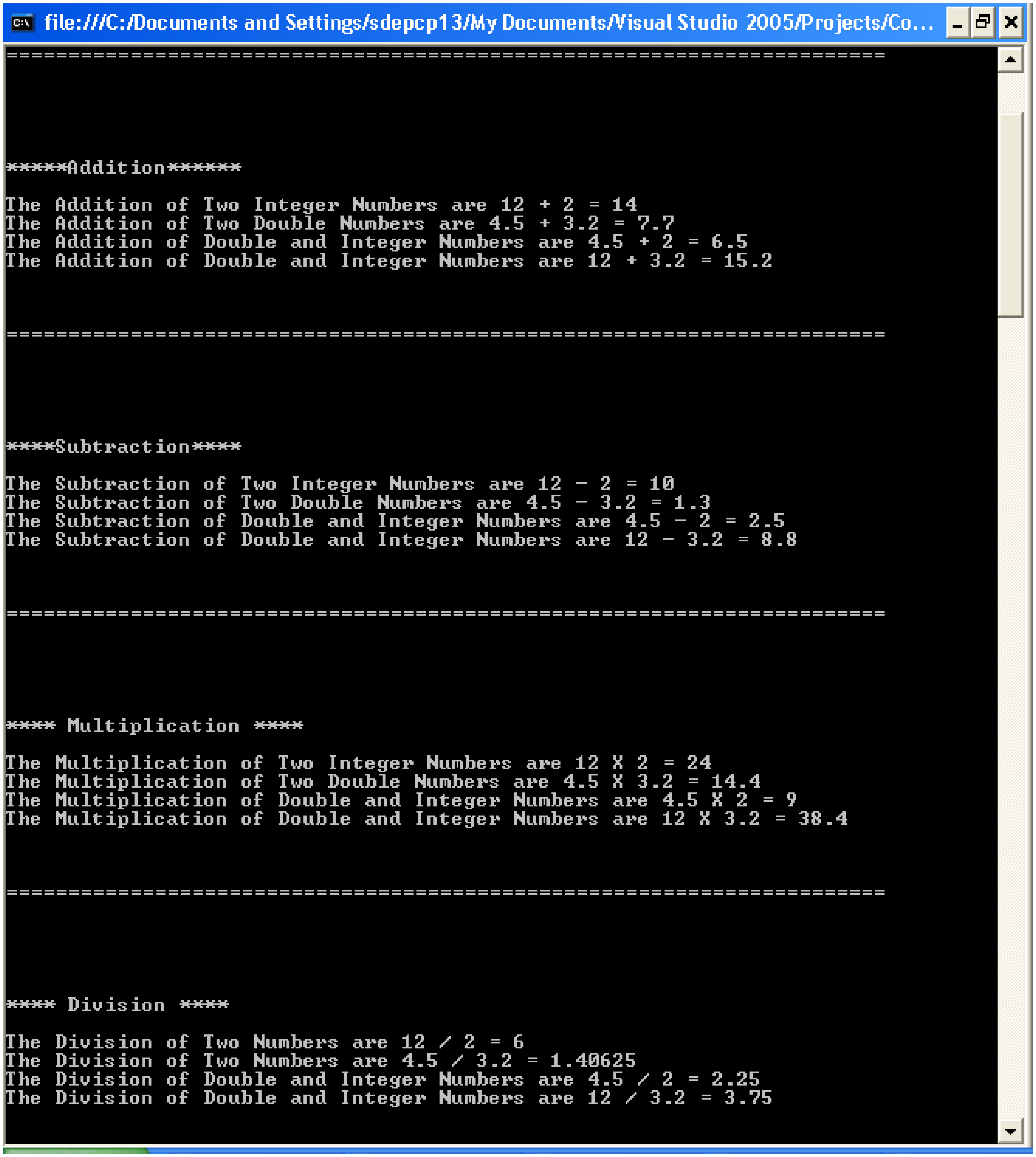
```
Welcome to School of Distance Education
Arithmatic Operations with Function Overloading

Enter the Int first Value : 12
Enter the Int Second Value : 2

Enter the Double First Value : 4.5
Enter the Double Second Value : 3.2_
```



file:///C:/Documents and Settings/sdepcp13/My Documents/Visual Studio 2005/Projects/Co...

```
=======================================================================





*****Addition******

The Addition of Two Integer Numbers are 12 + 2 = 14
The Addition of Two Double Numbers are 4.5 + 3.2 = 7.7
The Addition of Double and Integer Numbers are 4.5 + 2 = 6.5
The Addition of Double and Integer Numbers are 12 + 3.2 = 15.2



=======================================================================





****Subtraction****

The Subtraction of Two Integer Numbers are 12 - 2 = 10
The Subtraction of Two Double Numbers are 4.5 - 3.2 = 1.3
The Subtraction of Double and Integer Numbers are 4.5 - 2 = 2.5
The Subtraction of Double and Integer Numbers are 12 - 3.2 = 8.8



=======================================================================





**** Multiplication ****

The Multiplication of Two Integer Numbers are 12 X 2 = 24
The Multiplication of Two Double Numbers are 4.5 X 3.2 = 14.4
The Multiplication of Double and Integer Numbers are 4.5 X 2 = 9
The Multiplication of Double and Integer Numbers are 12 X 3.2 = 38.4



=======================================================================





**** Division ****

The Division of Two Numbers are 12 / 2 = 6
The Division of Two Numbers are 4.5 / 3.2 = 1.40625
The Division of Double and Integer Numbers are 4.5 / 2 = 2.25
The Division of Double and Integer Numbers are 12 / 3.2 = 3.75
```

RESULT:

Hence the program is successfully executed and the output is verified.

Ex.No : 6 COMPLEX NUMBERS USING OPERATOR OVERLOADING

Date :

AIM :

To create a program for Complex Numbers using Function Overloading.

ALGORITHM :

STEP 1: Start the process.

STEP 2: Create Complex methods.

STEP 3: Declare the variables.

STEP 4: Save the program

STEP 5: Run the program

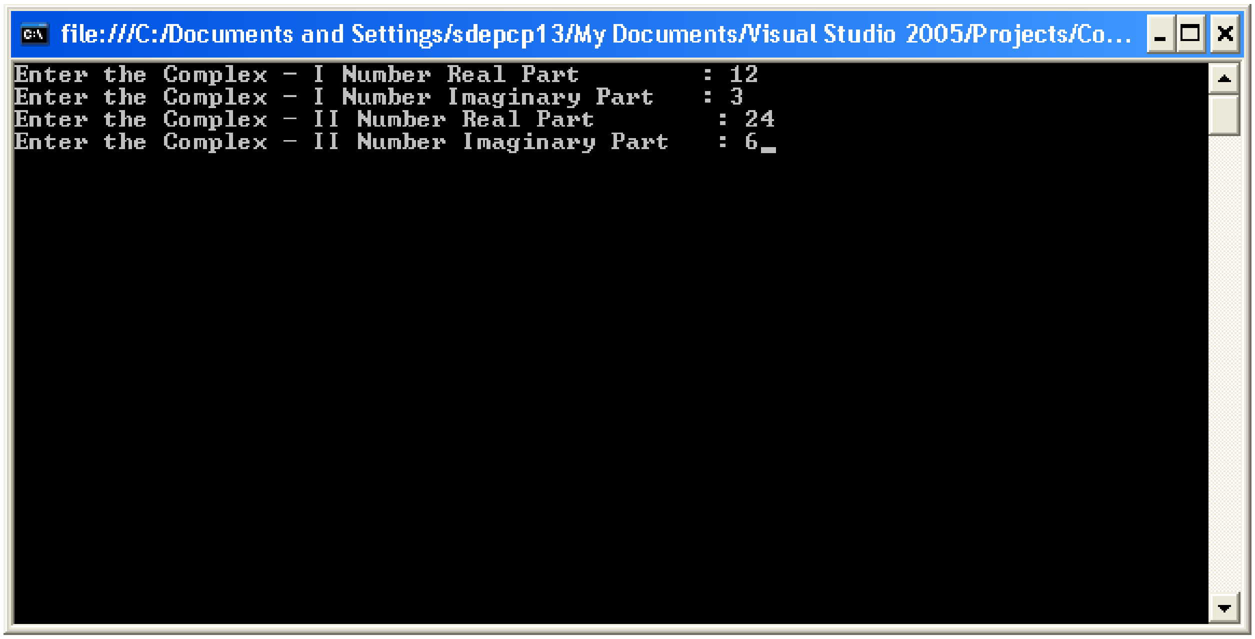
STEP 6: Stop the process.

PROGRAM:

```
using System;
using System.Collections.Generic;
using System.Text;
namespace PCP3
{
    public class Complex
    {
        public double real;
        public double imaginary;

        public Complex(double real, double imaginary)
        {
            this.real = real;
            this.imaginary = imaginary;
        }
        public static Complex operator +(Complex c1, Complex c2)
        {
            return new Complex(c1.real + c2.real, c1.imaginary + c2.imaginary);
        }
        public static Complex operator -(Complex c1, Complex c2)
        {
            return new Complex(c1.real - c2.real, c1.imaginary - c2.imaginary);
        }
        public static Complex operator *(Complex c1, Complex c2)
        {
            return new Complex(c1.real * c2.real - c1.imaginary * c2.imaginary, c1.imaginary * c2.real + c1.real * c2.imaginary);
        }
        public static Complex operator /(Complex c1, Complex c2)
        {
            return new Complex(
              (c1.real * c2.real + c1.imaginary * c2.imaginary) / (c2.real * c2.real + c2.imaginary * c2.imaginary),
              (c1.imaginary * c2.real - c1.real * c2.imaginary) / (c2.real * c2.real + c2.imaginary * c2.imaginary)
            );
        }
        public override string ToString()
        {
            if (imaginary == 0)
              return (System.String.Format("{0}", real));
            else
              if (imaginary > 0)
                return (System.String.Format("{0} + {1}i", real, imaginary));
              else
                return (System.String.Format("{0} - {1}i", real, Math.Abs(imaginary)));
        }
    }

    class TestComplex
```

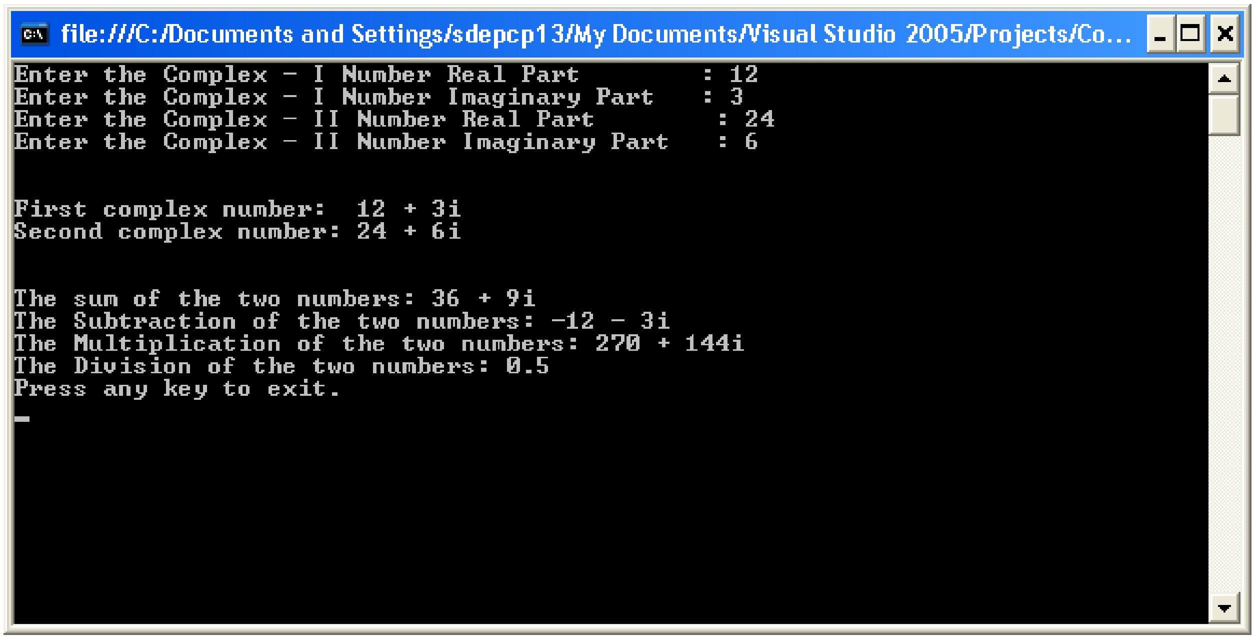
```
{
    static void Main()
    {
        double a, b;
        Console.Write("Enter the Complex - I Number Real Part        : ");
        Double.TryParse(Console.ReadLine(), out a);
        Console.Write("Enter the Complex - I Number Imaginary Part   : ");
        Double.TryParse(Console.ReadLine(), out b);
        Complex num1 = new Complex(a, b);
        Console.Write("Enter the Complex - II Number Real Part        : ");
        Double.TryParse(Console.ReadLine(), out a);
        Console.Write("Enter the Complex - II Number Imaginary Part   : ");
        Double.TryParse(Console.ReadLine(), out b);
        Complex num2 = new Complex(a, b);
        Console.WriteLine("\n\nFirst complex number:  {0}", num1);
        Console.WriteLine("Second complex number: {0}", num2);
        Console.WriteLine("\n\nThe sum of the two numbers: {0}", num1 + num2);
        Console.WriteLine("The Subtraction of the two numbers: {0}", num1 - num2);
        Console.WriteLine("The Multiplication of the two numbers: {0}", num1 * num2);
        Console.WriteLine("The Division of the two numbers: {0}", num1 / num2);
        Console.WriteLine("Press any key to exit.");
        Console.ReadKey();
    }
}        }
```

OUTPUT:



file:///C:/Documents and Settings/sdepcp13/My Documents/Visual Studio 2005/Projects/Co...

```
Enter the Complex - I Number Real Part         : 12
Enter the Complex - I Number Imaginary Part    : 3
Enter the Complex - II Number Real Part         : 24
Enter the Complex - II Number Imaginary Part    : 6_
```



file:///C:/Documents and Settings/sdepcp13/My Documents/Visual Studio 2005/Projects/Co...

```
Enter the Complex - I Number Real Part         : 12
Enter the Complex - I Number Imaginary Part    : 3
Enter the Complex - II Number Real Part         : 24
Enter the Complex - II Number Imaginary Part    : 6


First complex number:  12 + 3i
Second complex number: 24 + 6i


The sum of the two numbers: 36 + 9i
The Subtraction of the two numbers: -12 - 3i
The Multiplication of the two numbers: 270 + 144i
The Division of the two numbers: 0.5
Press any key to exit.
_
```

RESULT:

Hence the program is successfully executed and the output is verified.

Ex.No : 7 SINGLE INHERITANCE

Date :

AIM :

To create a program for Single Inheritance.

ALGORITHM :

STEP 1: Start the process.

STEP 2: Open the arguments and classes.

STEP 3: Declare the variables.

STEP 4: Save the program

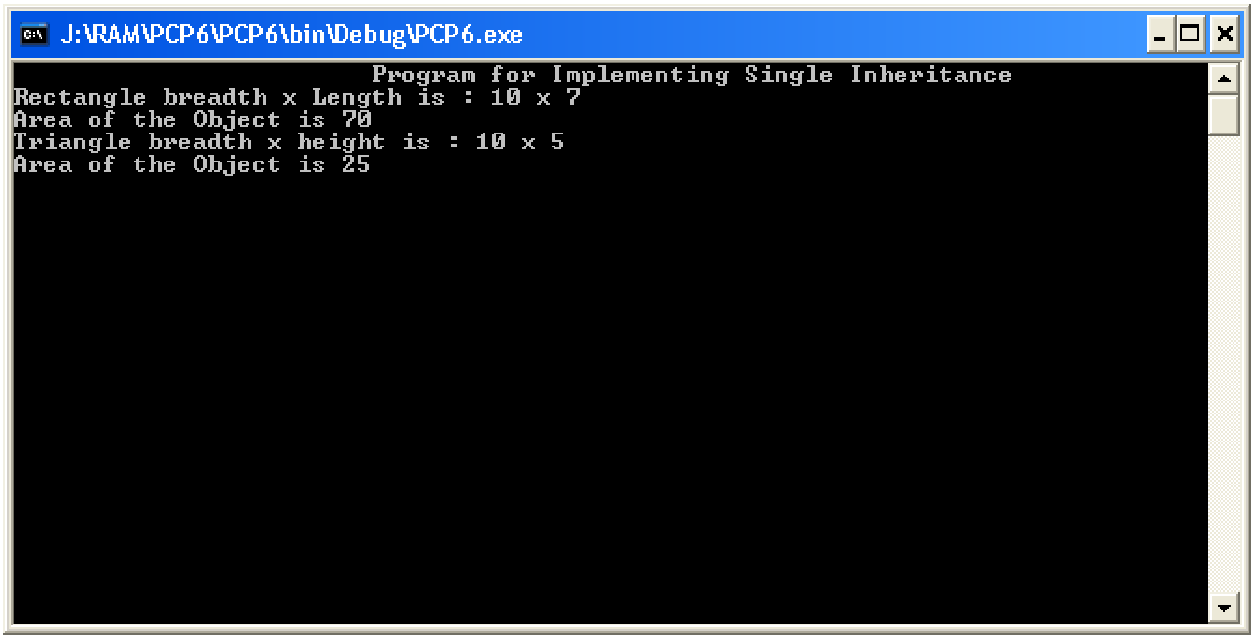
STEP 5: Run the program

STEP 6: Stop the process.

PROGRAM:

```
using System;
using System.Collections.Generic;
using System.Text;
namespace SingleInheritance
{
    class shape
    {
        protected int width, height;
        public shape(int a, int b)
        {
            width = a;
            height = b;
        }
        public virtual int area()
        {
            Console.WriteLine("Rectangle Class Area:");
            return (width * height);
        }
    }
    class rectangle : shape
    {
        public rectangle(int a, int b): base(a, b)
        { }
        public override int area()
        {
            Console.WriteLine("Rectangle breadth x Length is : {0} x {1}",
width, height);
            return (width * height);
        }
    }
    class triangle : shape
    {
        public triangle(int a, int b) : base(a, b)
        { }
        public override int area()
        {
            Console.WriteLine("Triangle breadth x height is : {0} x {1}",
width, height);
            return (width * height / 2);
        }
    }
    class caller
    {
        public void callarea(shape sh)
        {
            int a;
            a = sh.area();
            Console.WriteLine("Area of the Object is {0} ", a);
        }
    }
    class tester
    {
        static void Main(string[] args)
        {
            caller c = new caller();

            rectangle r = new rectangle(10, 7);

            triangle t = new triangle(10, 5);
            Console.WriteLine("\t\t\tProgram for Implementing Single
Inheritance");
            c.callarea(r);
            c.callarea(t);
            Console.ReadKey();

        }
    }
}
```

OUTPUT:



```
                                Program for Implementing Single Inheritance
Rectangle breadth x Length is : 10 x 7
Area of the Object is 70
Triangle breadth x height is : 10 x 5
Area of the Object is 25
```

RESULT:

Hence the program is successfully executed and the output is verified.

Ex.No : 8 MULTIPLE INHERITANCE

Date :

AIM :

To create a program for Multiple Inheritance.

ALGORITHM :

STEP 1: Start the process.

STEP 2: Open the arguments and classes.

STEP 3: Open the interfaces.

STEP 4: Save the program

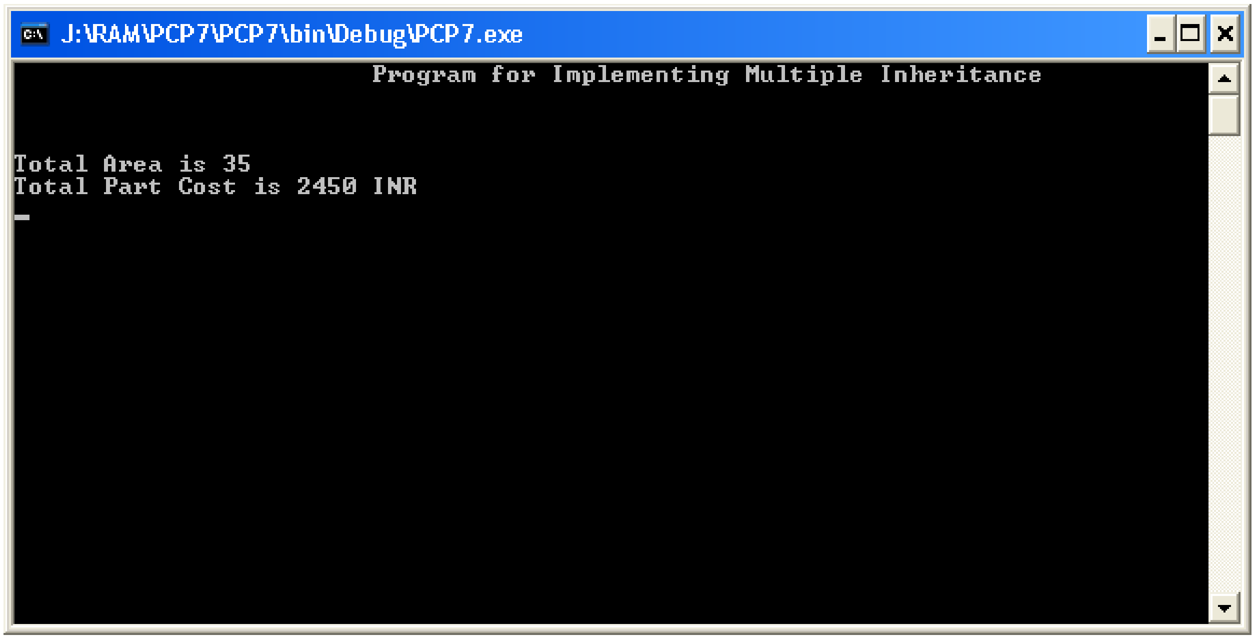
STEP 5: Run the program

STEP 6: Stop the process.

PROGRAM:

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

namespace MultipleInheritance
{

        class shape
        {
            protected int width;
            protected int height;
            public void setwidth(int w)
            {
                width = w;
            }
            public void setheight(int h)
            {
                height = h;
            }
            public interface paintcost
            {
                int getcost(int area);
            }
            class rectangle : shape, paintcost
            {
                public int getarea()
                {
                    return (width * height);
                }
                public int getcost(int area)
                {
                    return area * 70;
                }
            }

            static void Main(string[] args)
            {
                rectangle rect = new rectangle();
                int area;
                rect.setwidth(5);
                rect.setheight(7);
                area = rect.getarea();
                Console.WriteLine("\t\t\tProgram for Implementing Multiple
Inheritance\n\n\n");
                Console.WriteLine("Total Area is {0}", rect.getarea());
                Console.WriteLine("Total Part Cost is {0} INR",
rect.getcost(area));
                Console.ReadKey();
            }
        }
}
```

OUTPUT:



```
                                  Program for Implementing Multiple Inheritance


Total Area is 35
Total Part Cost is 2450 INR
```

RESULT:

Hence the program is successfully executed and the output is verified.

Ex.No : 9 CALCLULATOR

Date :

AIM :

To create a Calculator program using Windows Application.

ALGORITHM :

STEP 1: Start the process.

STEP 2: Open the Form.

STEP 3: Design the Form like a Calculator

STEP 4: Set Click Events for Buttons.

STEP 5: Save the program

STEP 6: Run the program

STEP 7: Stop the process.

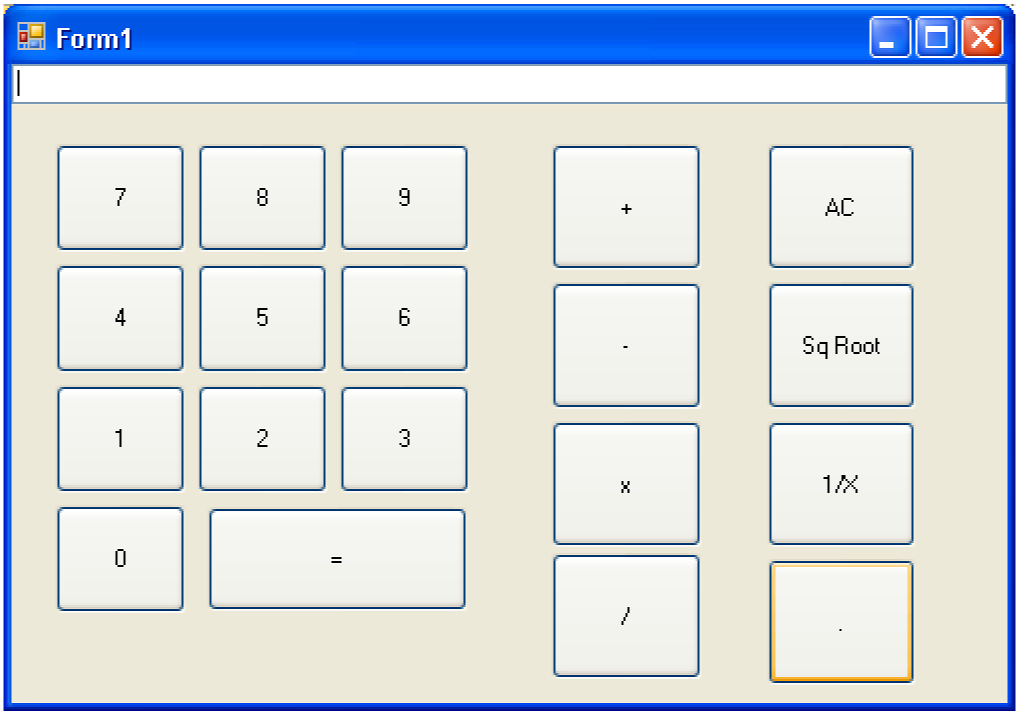
PROGRAM:

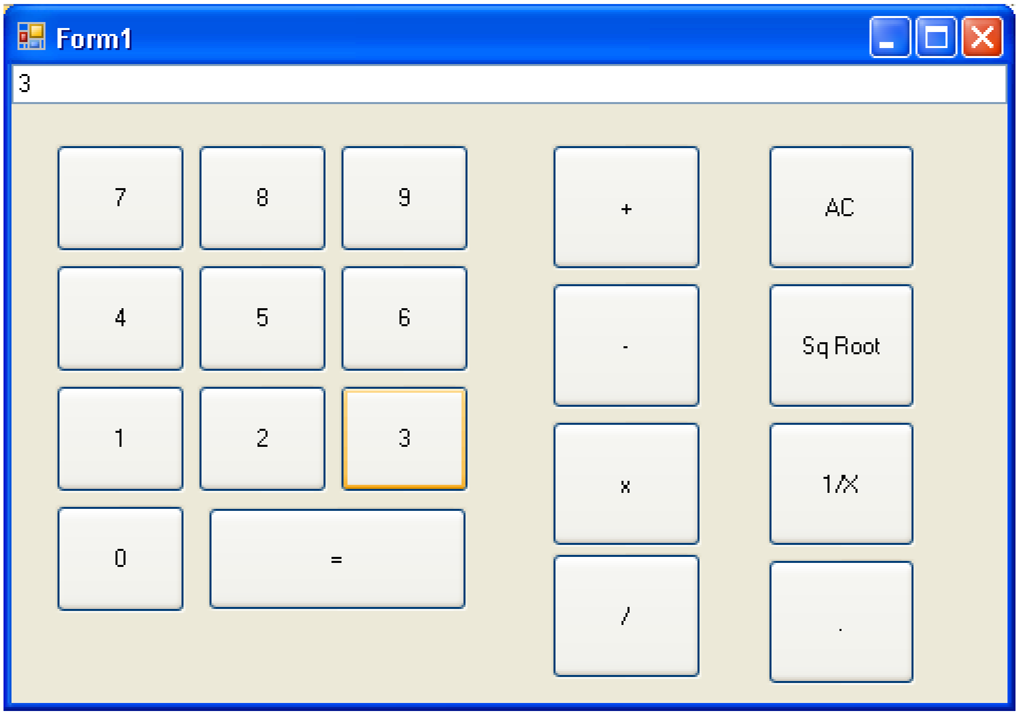
```
using System;
using System.Collections.Generic;
using System.ComponentModel;
using System.Data;
using System.Drawing;
using System.Linq;
using System.Text;
using System.Windows.Forms;

namespace Calculator
{
    public partial class Calculator : Form
    {
        Double number1, number2,result;
        String operatoration;
        public Calculator()
        {
            InitializeComponent();
        }

        private void button1_Click(object sender, EventArgs e)
        {
            resultBox.Text = resultBox.Text + "1";
        }

        private void button16_Click(object sender, EventArgs e)
        {
            resultBox.Text = "";
        }

        private void button12_Click(object sender, EventArgs e)
        {
            operatoration = "+";
            number1 = Double.Parse(resultBox.Text);
            resultBox.Text = "";
        }

        private void button13_Click(object sender, EventArgs e)
        {
            operatoration = "-";
            number1 = Double.Parse(resultBox.Text);
            resultBox.Text = "";
        }

        private void button14_Click(object sender, EventArgs e)
        {
            operatoration = "*";
            number1 = Double.Parse(resultBox.Text);
            resultBox.Text = "";
        }

        private void button15_Click(object sender, EventArgs e)
        {
            operatoration = "/";
            number1 = Double.Parse(resultBox.Text);
            resultBox.Text = "";
        }

        private void resultBox_TextChanged(object sender, EventArgs e)
        {
            if (resultBox.Text == "")
            {
                button11.Enabled = false;
                button12.Enabled = false;
                button13.Enabled = false;
                button14.Enabled = false;
                button15.Enabled = false;
                button16.Enabled = false;
                button17.Enabled = false;
                button18.Enabled = false;
            }
            else
            {
                button11.Enabled = true;
                button12.Enabled = true;
                button13.Enabled = true;
                button14.Enabled = true;
                button15.Enabled = true;
                button16.Enabled = true;
                button17.Enabled = true;
                button18.Enabled = true;
            }
        }

        private void Form1_Load(object sender, EventArgs e)
        {
            if (resultBox.Text == "")
            {
                button11.Enabled = false;
                button12.Enabled = false;
                button13.Enabled = false;
                button14.Enabled = false;
                button15.Enabled = false;
                button16.Enabled = false;
                button17.Enabled = false;
                button18.Enabled = false;
            }
            else
            {
                button11.Enabled = true;
                button12.Enabled = true;
                button13.Enabled = true;
                button14.Enabled = true;
                button15.Enabled = true;
                button16.Enabled = true;
                button17.Enabled = true;
                button18.Enabled = true;
            }
        }

        private void button2_Click(object sender, EventArgs e)
```

```
{
    resultBox.Text = resultBox.Text + "2";
}

private void button11_Click(object sender, EventArgs e)
{
    number2 = Double.Parse(resultBox.Text);
    if (operatoration == "+")
    {
        result = number1 + number2;
    }
    else if (operatoration == "-")
    {
        result = number1 - number2;
    }
    else if (operatoration == "*")
    {
        result = number1 * number2;
    }
    else if (operatoration == "/")
    {
        result = number1 / number2;
    }
    resultBox.Text = result.ToString();
}

private void button3_Click(object sender, EventArgs e)
{
    resultBox.Text = resultBox.Text + "3";
}

private void button4_Click(object sender, EventArgs e)
{
    resultBox.Text = resultBox.Text + "4";
}

private void button5_Click(object sender, EventArgs e)
{
    resultBox.Text = resultBox.Text + "5";
}

private void button6_Click(object sender, EventArgs e)
{
    resultBox.Text = resultBox.Text + "6";
}

private void button7_Click(object sender, EventArgs e)
{
    resultBox.Text = resultBox.Text + "7";
}

private void button8_Click(object sender, EventArgs e)
{
    resultBox.Text = resultBox.Text + "8";
}

private void button9_Click(object sender, EventArgs e)
```

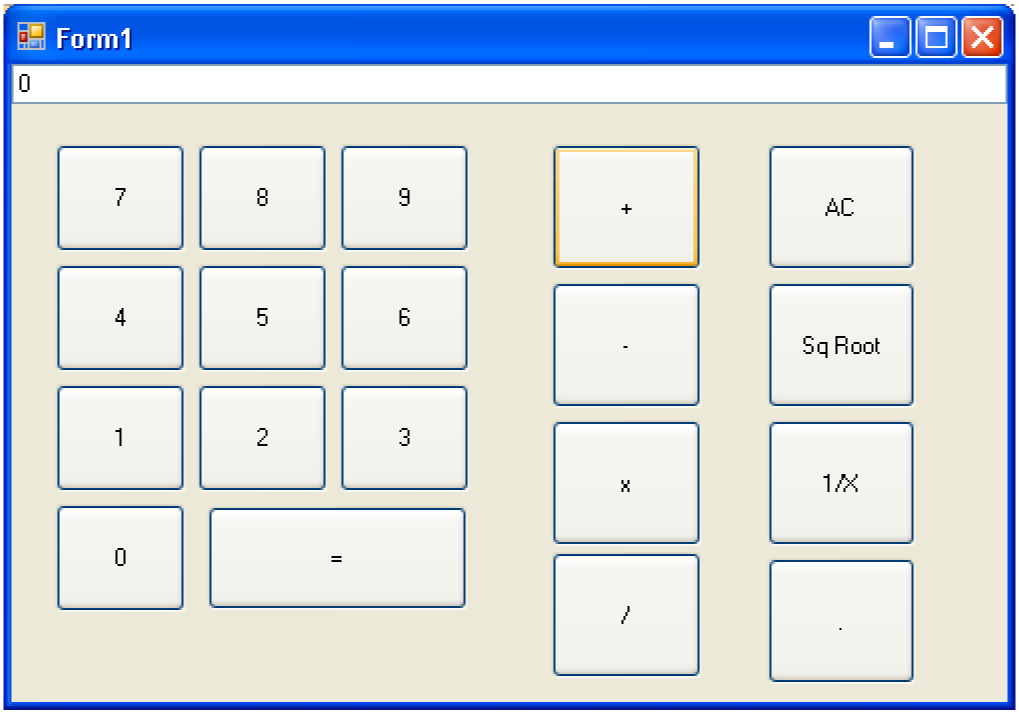
```
        {
            resultBox.Text = resultBox.Text + "9";
        }

        private void button10_Click(object sender, EventArgs e)
        {
            resultBox.Text = resultBox.Text + "0";
        }

        private void button19_Click(object sender, EventArgs e)
        {
            resultBox.Text = resultBox.Text + ".";
        }

        private void button17_Click(object sender, EventArgs e)
        {
            number1 = Double.Parse(resultBox.Text);
            result = Math.Sqrt(number1);
            resultBox.Text = result.ToString();
        }

        private void button18_Click(object sender, EventArgs e)
        {
            number1 = Double.Parse(resultBox.Text);
            result = 1/number1;
            resultBox.Text = result.ToString();
        }
    }
}
```

OUTPUT:

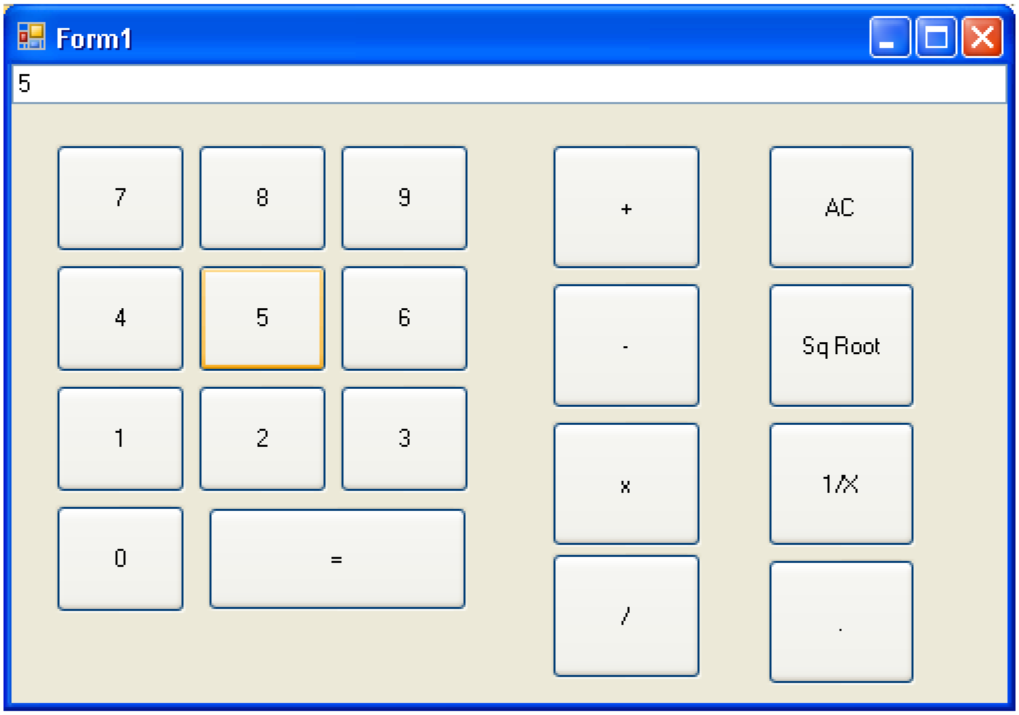

Form1
7
8
9
+
AC
4
5
6
-
Sq Root
1
2
3
x
1/X
0
=
/
.


Form1
7
8
9
+
AC
4
5
6
-
Sq Root
1
2
3
x
1/X
0
=
/
.

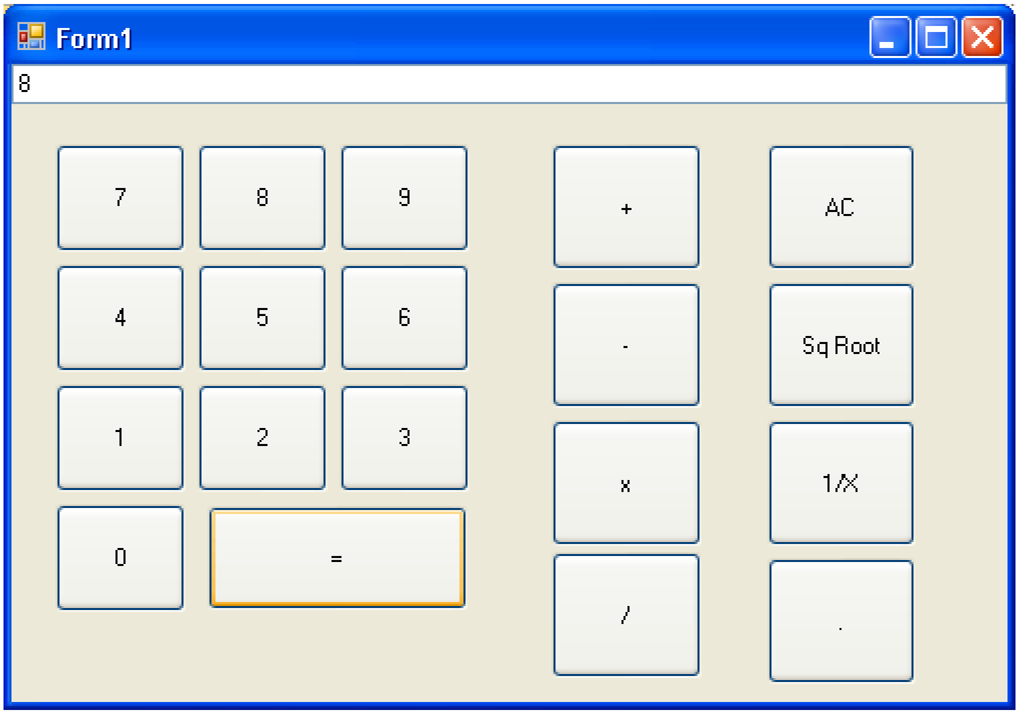
3


Form1
7
8
9
+
AC
4
5
6
-
Sq Root
1
2
3
x
1/X
0
=
/
.

0


Form1
7
8
9
+
AC
4
5
6
-
Sq Root
1
2
3
x
1/X
0
=
/
.

5



RESULT:

Hence the program is successfully executed and the output is verified.

Ex.No : 10 DIALOG BOXES

Date :

AIM :

To create a Dialog Boxes using Windows Application.

ALGORITHM :

STEP 1: Start the process.

STEP 2: Open the Form.

STEP 3: Design the Form.

STEP 4: Set the Events for Menu Strip

STEP 5: Open the Dialog Boxes.

STEP 6: Save the program

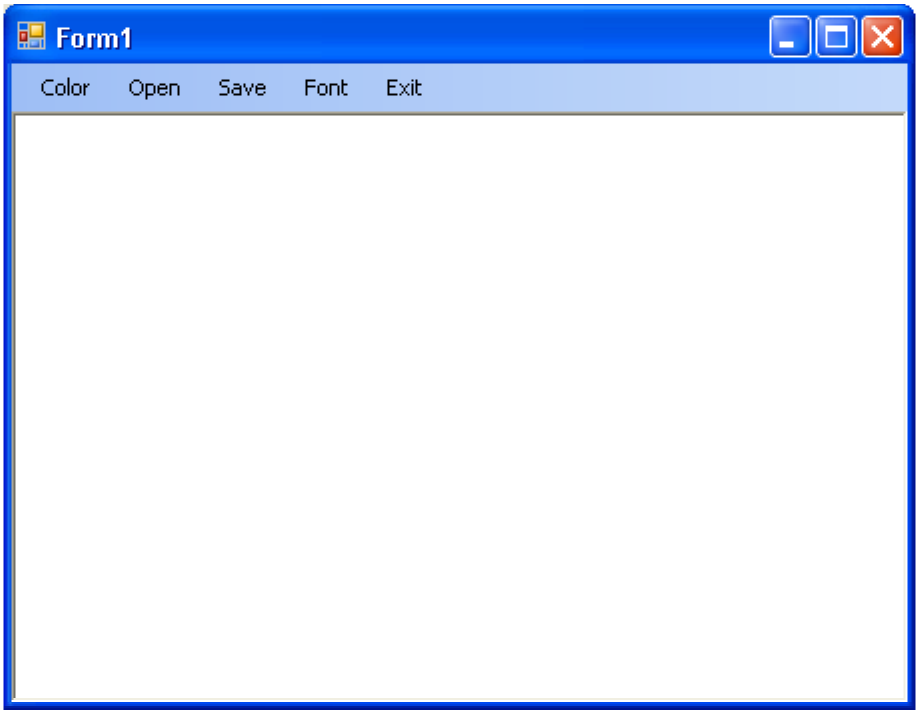
STEP 7: Run the program

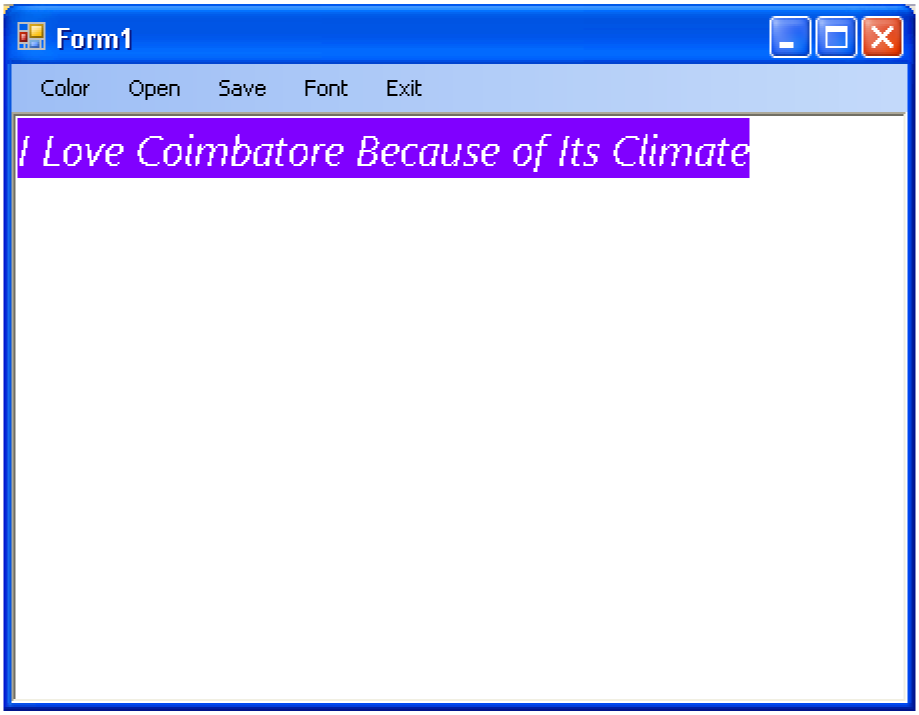
STEP 8: Stop the process.

PROGRAM:

```
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;

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

        private void openToolStripMenuItem_Click(object sender, EventArgs e)
        {
            openFileDialog1.ShowDialog();
            if (openFileDialog1.FileName!= null)
            {
                richTextBox1.LoadFile(openFileDialog1.FileName);
            }
        }

        private void exitToolStripMenuItem_Click(object sender, EventArgs e)
        {
            this.Dispose();
        }

        private void fontColorToolStripMenuItem_Click(object sender,
EventArgs e)
        {
            colorDialog1.ShowDialog();
            richTextBox1.SelectionColor = colorDialog1.Color;
        }

        private void backgroundColorToolStripMenuItem_Click(object sender,
EventArgs e)
        {
            colorDialog1.ShowDialog();

            richTextBox1.SelectionBackColor = colorDialog1.Color;
        }

        private void fontToolStripMenuItem_Click(object sender, EventArgs e)
        {
            fontDialog1.ShowDialog();
            richTextBox1.SelectionFont = fontDialog1.Font;
        }

        private void saveToolStripMenuItem_Click(object sender, EventArgs e)
        {
            saveFileDialog1.ShowDialog();
            richTextBox1.SaveFile(saveFileDialog1.FileName);
        }
    }
}
```

OUTPUT:





I Love Coimbatore Because of Its Climate

RESULT:

Hence the program is successfully executed and the output is verified.