

PRACTICAL FILE OF C# LANGUAGE

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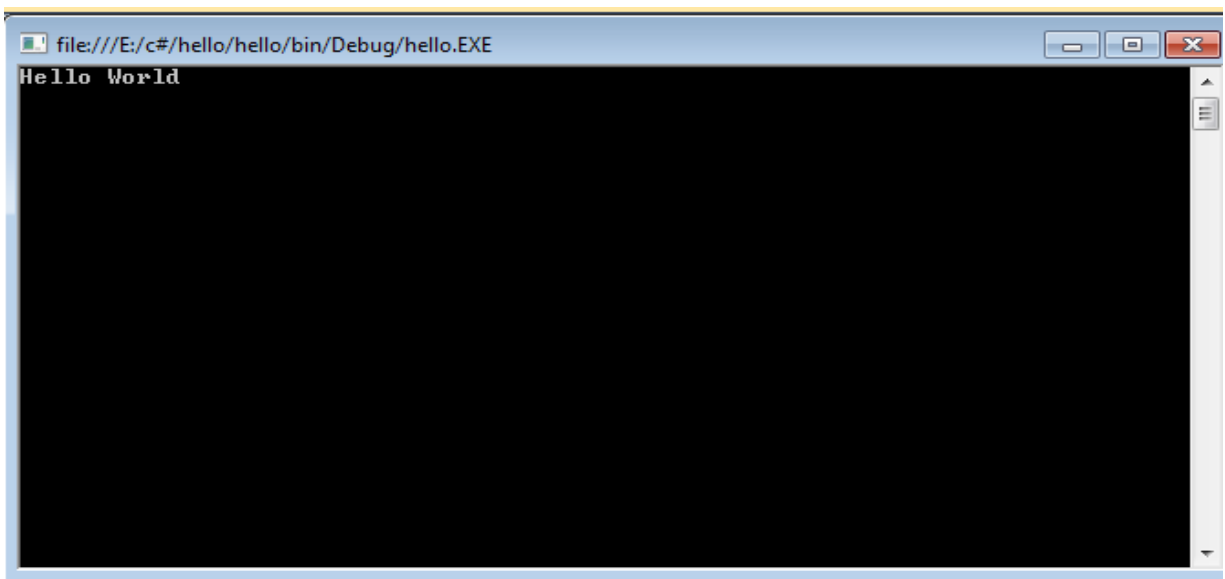
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- **WAP to print the words “Hello World”.**

```
using System;
using System.Collections.Generic;
using System.Linq;
using System.Text;
namespace hello
{
    class Program
    {
        static void Main(string[] args)
        {
            Console.WriteLine("Hello World");
            Console.ReadKey();
        }
    }
}
```

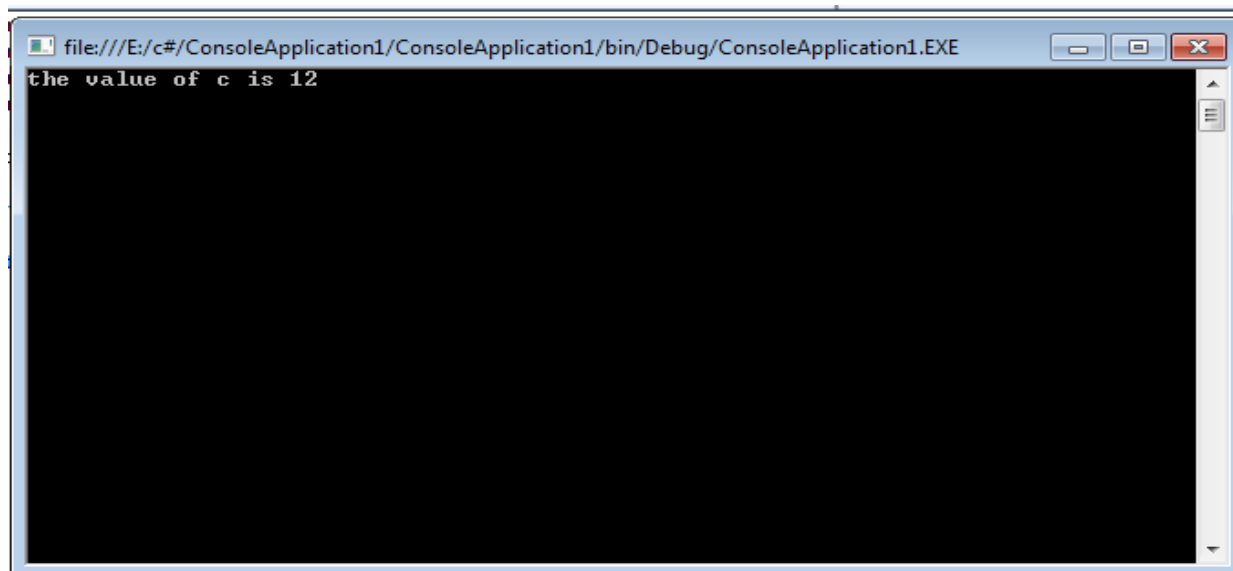
OUTPUT:



- **WAP to display sum of two numbers.**

```
using System;
using System.Collections.Generic;
using System.Linq;
using System.Text;
namespace ConsoleApplication1
{
    class Program
    {
        static void Main(string[] args)
        {
            int a, b, c;
            a = 10;
            b = 2;
            c = a + b;
            Console.WriteLine("the value of c is {0}", c);
            Console.ReadKey();
        }
    }
}
```

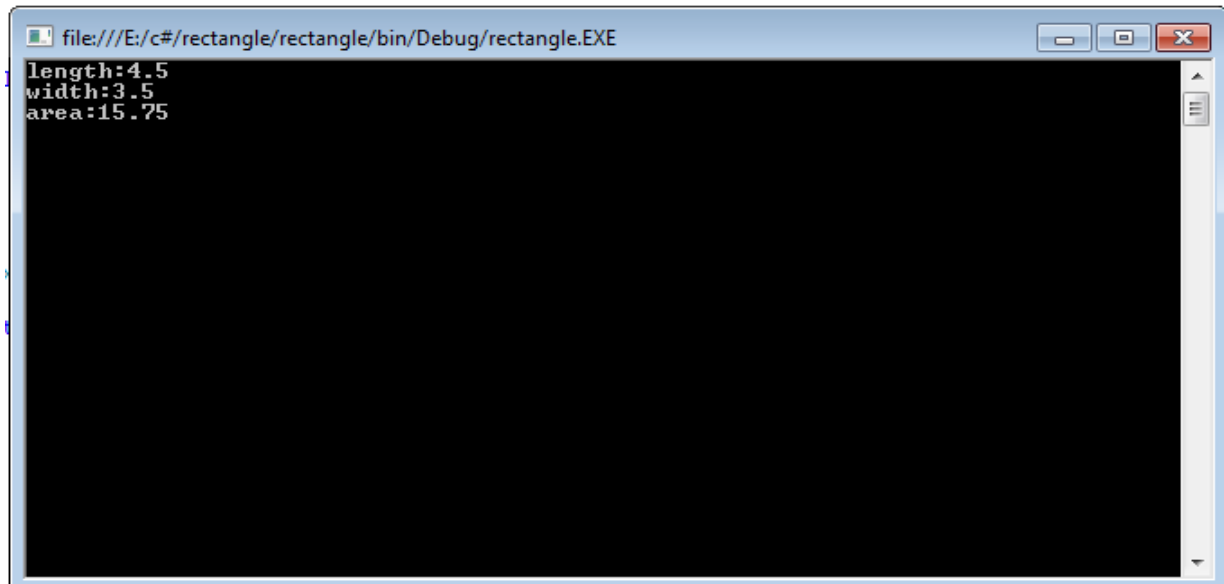
OUTPUT:



- **WAP to find area of rectangle.**

```
using System;
using System.Collections.Generic;
using System.Linq;
using System.Text;
namespace rectangle
{
    class rectangle
    {
        double length;
        double width;
        public void acceptdetail()
        {
            length = 4.5;
            width = 3.5;
        }
        public double getarea()
        {
            return length * width;
        }
        public void display()
        {
            Console.WriteLine("length:{0}", length);
            Console.WriteLine("width:{0}", width);
            Console.WriteLine("area:{0}", getarea());
        }
    }
    class ExecuteRectangle
    {
        static void Main(string[] args)
        {
            rectangle r = new rectangle();
            r.acceptdetail();
            r.display();
            Console.ReadLine();
        }
    }
}
```

OUTPUT:



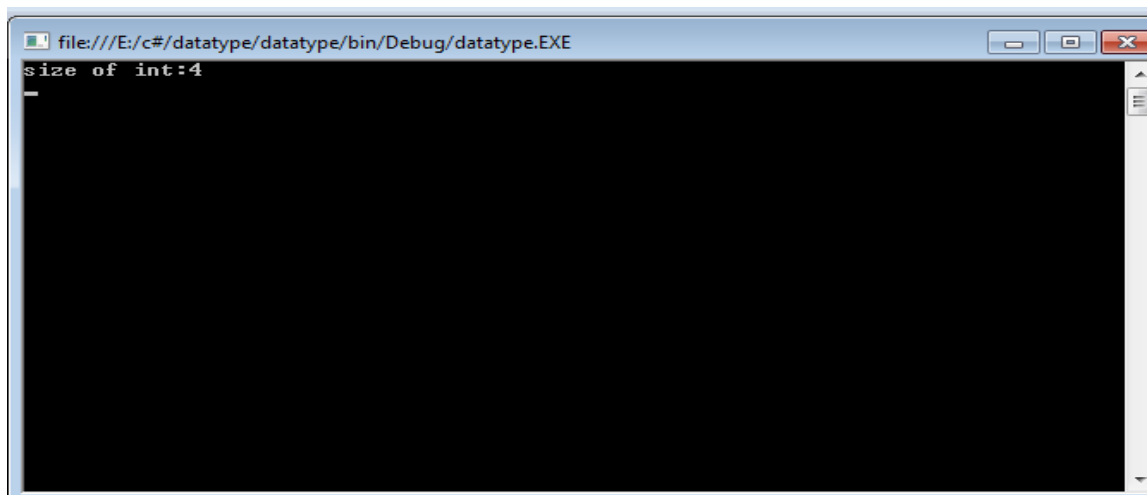
A screenshot of a Windows command prompt window. The title bar at the top reads "file:///E:/c#/rectangle/rectangle/bin/Debug/rectangle.EXE". The window contains three lines of text: "length:4.5", "width:3.5", and "area:15.75". The text is displayed in a monospaced font on a black background. The window has standard Windows controls (minimize, maximize, close) in the top right corner.

```
length:4.5  
width:3.5  
area:15.75
```

- **WAP to get the size of data type.**

```
using System;
using System.Collections.Generic;
using System.Linq;
using System.Text;
namespace datatype
{
    class Program
    {
        static void Main(string[] args)
        {
            Console.WriteLine("size of int:{0}", sizeof(int));
            Console.ReadLine();
        }
    }
}
```

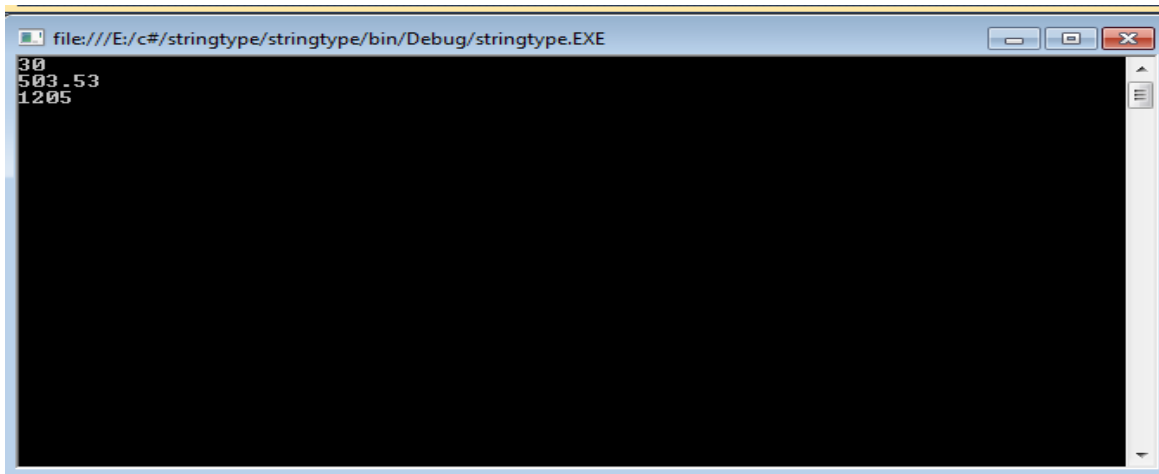
OUTPUT:



- **WAP to convert various value to string type.**

```
using System;
using System.Collections.Generic;
using System.Linq;
using System.Text;
namespace stringtype
{
    class Program
    {
        static void Main(string[] args)
        {
            int a = 30;
            double b=503.53;
            Int32 c=1205;
            Console.WriteLine(a.ToString());
            Console.WriteLine(b.ToString());
            Console.WriteLine(c.ToString());
            String str=a.ToString();
            Console.ReadLine();
        }
    }
}
```

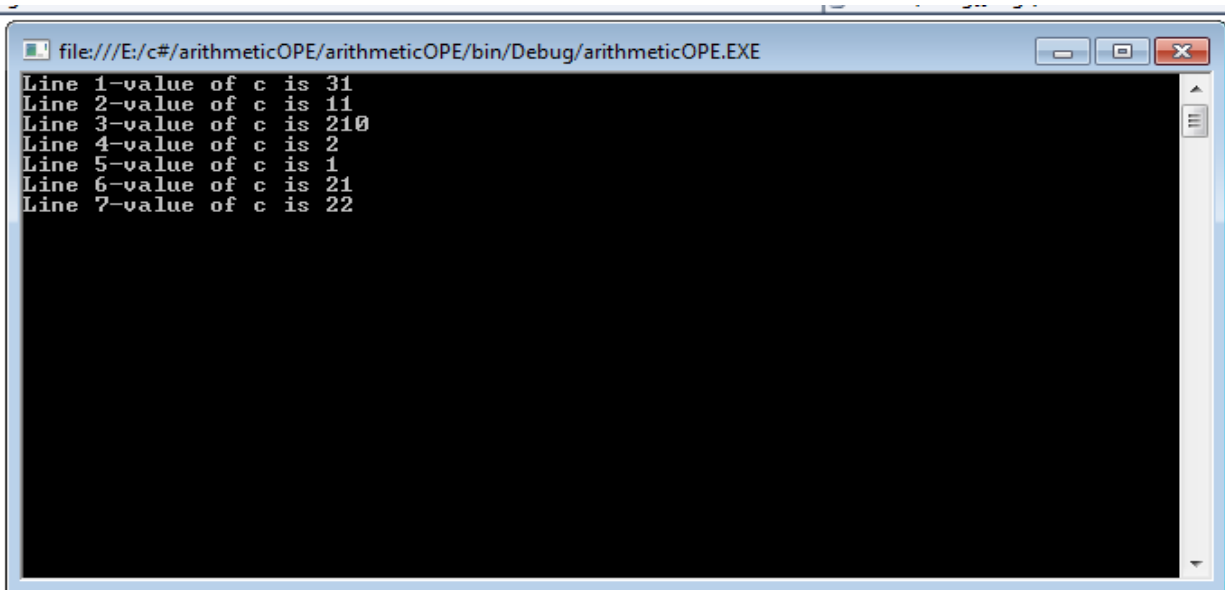
OUTPUT:



- **WAP using arithmetic operators.**

```
using System;
using System.Collections.Generic;
using System.Linq;
using System.Text;
namespace arithmeticOPE
{
    class Program
    {
        static void Main(string[] args)
        {
            int a = 21;
            int b = 10;
            int c;
            c = a + b;
            Console.WriteLine("Line 1-value of c is {0}", c);
            c = a - b;
            Console.WriteLine("Line 2-value of c is {0}", c);
            c = a * b;
            Console.WriteLine("Line 3-value of c is {0}", c);
            c = a / b;
            Console.WriteLine("Line 4-value of c is {0}", c);
            c = a % b;
            Console.WriteLine("Line 5-value of c is {0}", c);
            c = a++;
            Console.WriteLine("Line 6-value of c is {0}", c);
            c = a--;
            Console.WriteLine("Line 7-value of c is {0}", c);
            Console.ReadLine();
        }
    }
}
```

OUTPUT:



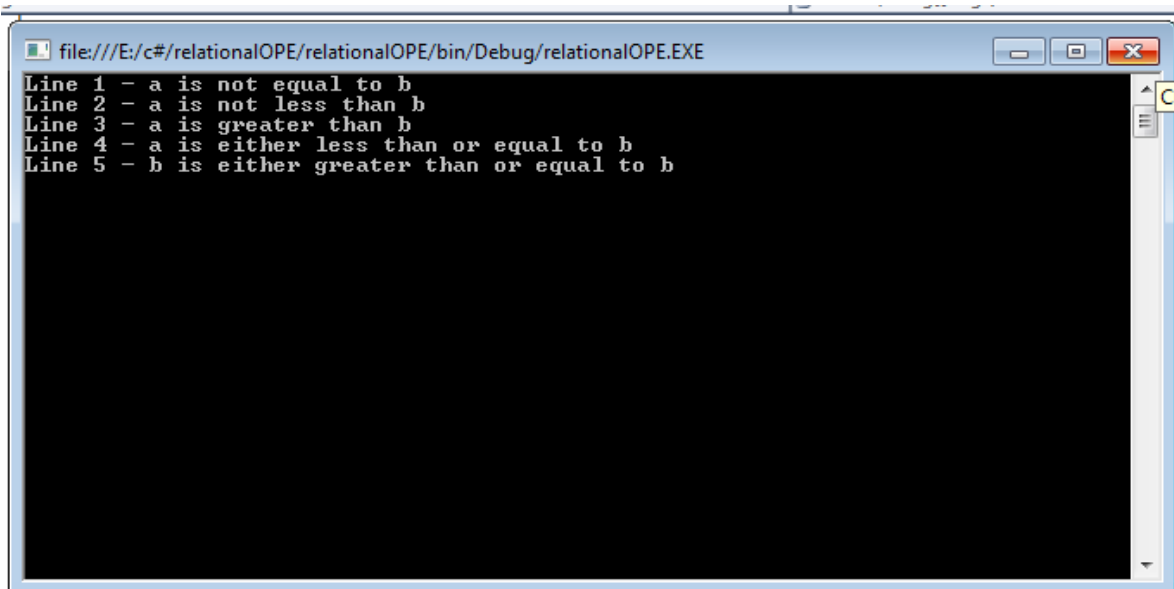
```
file:///E:/c#/arithmeticOPE/arithmeticOPE/bin/Debug/arithmeticOPE.EXE
Line 1-value of c is 31
Line 2-value of c is 11
Line 3-value of c is 210
Line 4-value of c is 2
Line 5-value of c is 1
Line 6-value of c is 21
Line 7-value of c is 22
```

- **WAP using relational operator.**

```
using System;
using System.Collections.Generic;
using System.Linq;
using System.Text;
namespace relationalOPE
{
    class Program
    {
        static void Main(string[] args)
        {
            int a = 21;
            int b = 10;
            if (a == b)
            {
                Console.WriteLine("Line 1 - a is equal to b");
            }
            else
            {
                Console.WriteLine("Line 1 - a is not equal to b");
            }
            if (a < b)
            {
                Console.WriteLine("Line 2 - a is less than b");
            }
            else
            {
                Console.WriteLine("Line 2 - a is not less than b");
            }
            if (a > b)
            {
                Console.WriteLine("Line 3 - a is greater than b");
            }
            else
            {
                Console.WriteLine("Line 3 - a is not greater than b");
            }
            a = 5;
            b = 20;
            if (a <= b)
            {
                Console.WriteLine("Line 4 - a is either less than or equal to b");
            }
            if (b >= a)
            {
                Console.WriteLine("Line 4 - b is either less than or equal to a");
            }
        }
    }
}
```

```
Console.WriteLine("Line 5 - b is either greater than or equal to b");  
    }  
Console.ReadLine();  
  
    }  
  
}  
  
}
```

OUTPUT:



```
file:///E:/c#/relationalOPE/relationalOPE/bin/Debug/relationalOPE.EXE  
Line 1 - a is not equal to b  
Line 2 - a is not less than b  
Line 3 - a is greater than b  
Line 4 - a is either less than or equal to b  
Line 5 - b is either greater than or equal to b
```

- **WAP using logical operators.**

```
using System;
using System.Collections.Generic;
using System.Linq;
using System.Text;
namespace logicalOPE
{
    class Program
    {
        static void Main(string[] args)
        {

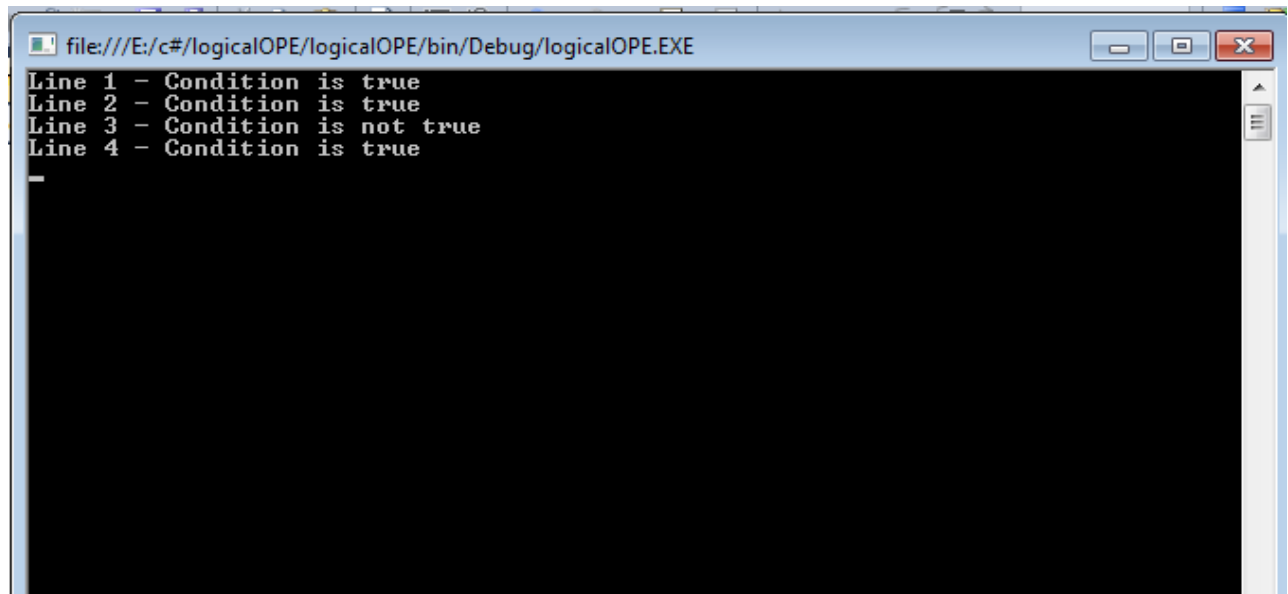
            bool a = true;
            bool b = true;
            if (a && b)
            {
                Console.WriteLine("Line 1 - Condition is true");
            }
            if (a || b)
            {
                Console.WriteLine("Line 2 - Condition is true");
            }
            a = false;
            b = true;
            if (a && b)
            {
                Console.WriteLine("Line 3 - Condition is true");
            }
            else
            {
                Console.WriteLine("Line 3 - Condition is not true");
            }
            if (!a && b)
            {
                Console.WriteLine("Line 4 - Condition is true");
            }
            Console.ReadLine();

        }

    }

}
```

OUTPUT:



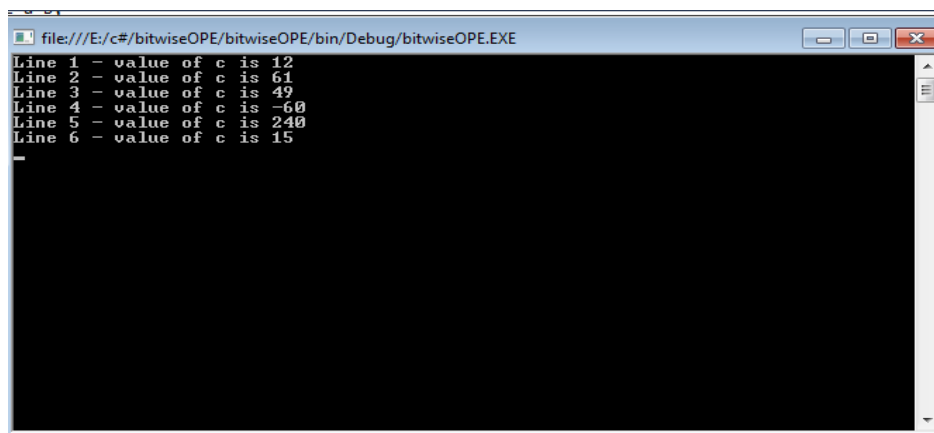
A screenshot of a Windows command prompt window. The title bar shows the file path: file:///E:/c#/logicalOPE/logicalOPE/bin/Debug/logicalOPE.EXE. The window contains the following text:

```
Line 1 - Condition is true  
Line 2 - Condition is true  
Line 3 - Condition is not true  
Line 4 - Condition is true  
-
```

- **WAP using bitwise operator.**

```
using System;
using System.Collections.Generic;
using System.Linq;
using System.Text;
namespace bitwiseOPE
{
    class Program
    {
        static void Main(string[] args)
        {
            int a = 60;
            int b = 13;
            int c = 0;
            c = a & b;
            Console.WriteLine("Line 1 - value of c is {0}", c);
            c = a | b;
            Console.WriteLine("Line 2 - value of c is {0}", c);
            c = a ^ b;
            Console.WriteLine("Line 3 - value of c is {0}", c);
            c = -a;
            Console.WriteLine("Line 4 - value of c is {0}", c);
            c = a << 2;
            Console.WriteLine("Line 5 - value of c is {0}", c);
            c = a >> 2;
            Console.WriteLine("Line 6 - value of c is {0}", c);
            Console.ReadLine();
        }
    }
}
```

OUTPUT:



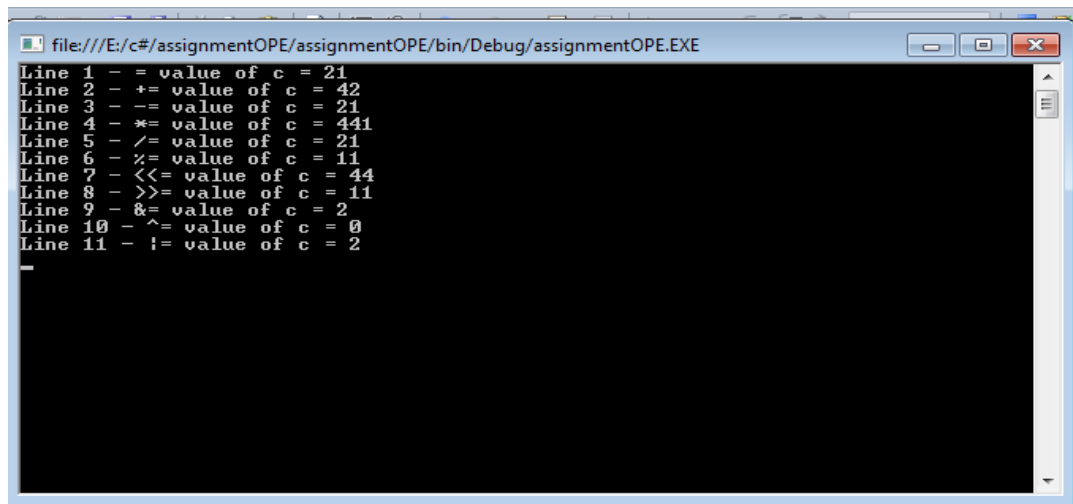
The screenshot shows a console window titled "file:///E:/c#/bitwiseOPE/bitwiseOPE/bin/Debug/bitwiseOPE.EXE". The output displays the values of variable 'c' after each operation:

```
Line 1 - value of c is 12
Line 2 - value of c is 61
Line 3 - value of c is 49
Line 4 - value of c is -60
Line 5 - value of c is 240
Line 6 - value of c is 15
```

- **WAP using assignment operator.**

```
using System;
using System.Collections.Generic;
using System.Linq;
using System.Text;
namespace assignmentOPE
{
    class Program
    {
        static void Main(string[] args)
        {
            int a = 21;
            int c;
            c=a;
            Console.WriteLine("Line 1 - = value of c = {0}",c);
            c += a;
            Console.WriteLine("Line 2 - += value of c = {0}",c);
            c -= a;
            Console.WriteLine("Line 3 - -= value of c = {0}",c);
            c *= a;
            Console.WriteLine("Line 4 - *= value of c = {0}",c);
            c /= a;
            Console.WriteLine("Line 5 - /= value of c = {0}",c);
            c=200;
            c %= a;
            Console.WriteLine("Line 6 - %= value of c = {0}",c);
            c <<= 2;
            Console.WriteLine("Line 7 - <<= value of c = {0}",c);
            c >>= 2;;
            Console.WriteLine("Line 8 - >>= value of c = {0}",c);
            c&=2;
            Console.WriteLine("Line 9 - &= value of c = {0}",c);
            c ^=2;
            Console.WriteLine("Line 10 - ^= value of c = {0}",c);
            c |=2;
            Console.WriteLine("Line 11 - |= value of c = {0}",c);
            Console.ReadLine();
        }
    }
}
```

OUTPUT:



```
file:///E:/c#/assignmentOPE/assignmentOPE/bin/Debug/assignmentOPE.EXE
Line 1 - = value of c = 21
Line 2 - += value of c = 42
Line 3 - -= value of c = 21
Line 4 - *= value of c = 441
Line 5 - /= value of c = 21
Line 6 - %= value of c = 11
Line 7 - <<= value of c = 44
Line 8 - >>= value of c = 11
Line 9 - &= value of c = 2
Line 10 - ^= value of c = 0
Line 11 - != value of c = 2
```

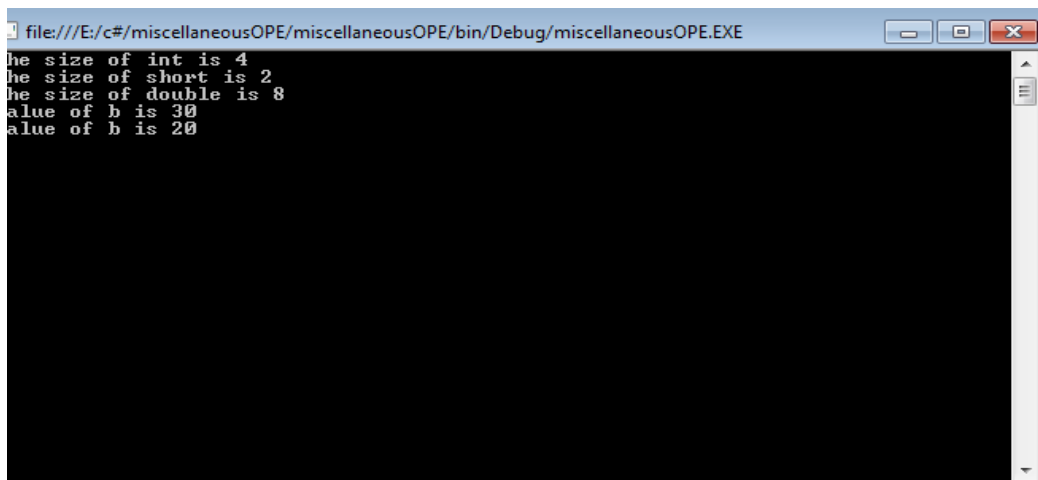
- **WAP using miscellaneous operator.**

```
using System;
using System.Collections.Generic;
using System.Linq;
using System.Text;
namespace miscellaneousOPE
{
    class Program
    {
        static void Main(string[] args)
        {
            Console.WriteLine("The size of int is {0}", sizeof(int));
            Console.WriteLine("The size of short is {0}", sizeof(short));
            Console.WriteLine("The size of double is {0}", sizeof(double));

            int a, b;
            a = 10;
            b = (a == 1) ? 20 : 30;
            Console.WriteLine("value of b is {0}", b);

            b = (a == 10) ? 20 : 30;
            Console.WriteLine("value of b is {0}", b);
            Console.ReadLine();
        }
    }
}
```

OUTPUT:



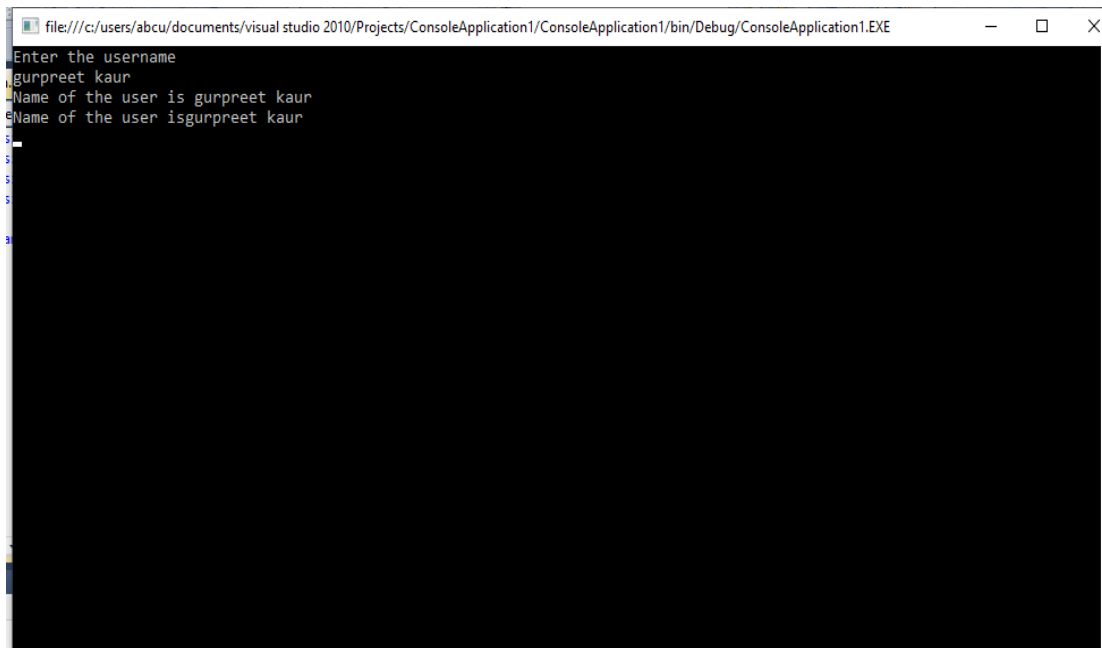
```
file:///E:/c#/miscellaneousOPE/miscellaneousOPE/bin/Debug/miscellaneousOPE.EXE
The size of int is 4
The size of short is 2
The size of double is 8
value of b is 30
value of b is 20
```

- **WAP to display name of user using input output method.**

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

namespace nameofuser
{
    class Program
    {
        static void Main(string[] args)
        {
            Console.WriteLine("Enter the username");
            string username = Console.ReadLine();
            Console.WriteLine("Name of user is {0}", username);
            Console.WriteLine("Name of user is " + username);
            Console.ReadLine();
        }
    }
}
```

OUTPUT:

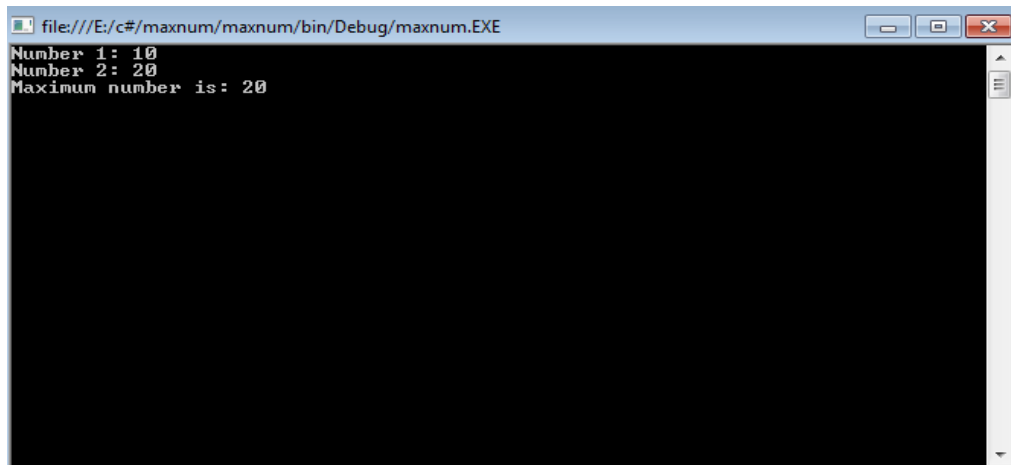


```
file:///c:/users/abcu/documents/visual studio 2010/Projects/ConsoleApplication1/ConsoleApplication1/bin/Debug/ConsoleApplication1.EXE
Enter the username
gurpreet kaur
Name of the user is gurpreet kaur
Name of the user isgurpreet kaur
```

- **WAP to find maximum number between two numbers.**

```
using System;
using System.Collections.Generic;
using System.Linq;
using System.Text;
namespace maxnum
{
    class findmax
    {
        static void Main(string[] args)
        {
            int num1 = 10, num2 = 20;
            int maxNum;
            Console.WriteLine("Number 1: "+num1);
            Console.WriteLine("Number 2: "+num2);
            if(num1>num2)
            {
                maxNum = num1;
            }
            else
            {
                maxNum = num2;
            }
            Console.WriteLine("Maximum number is: "+maxNum);
            Console.ReadKey();
            Console.ReadLine();
        }
    }
}
```

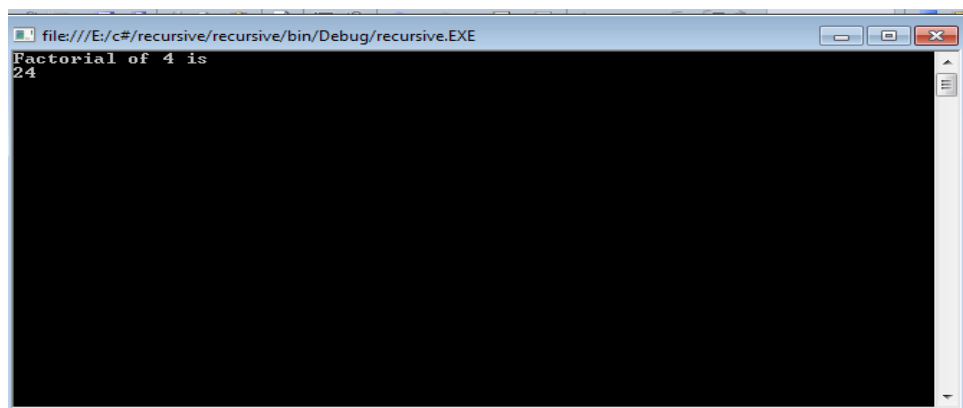
OUTPUT:

A screenshot of a Windows command prompt window. The title bar shows the file path: file:///E:/c#/maxnum/maxnum/bin/Debug/maxnum.EXE. The window has standard Windows window controls (minimize, maximize, close). The command prompt area is black with white text. The output displayed is: "Number 1: 10", "Number 2: 20", and "Maximum number is: 20". There is a small icon in the bottom right corner of the command prompt area.

- **WAP of factorial using recursive method.**

```
using System;
using System.Collections.Generic;
using System.Linq;
using System.Text;
namespace recursive
{
    class factorial
    {
        public int fact(int n)
        {
            int r;
            if (n == 1)
            {
                return 1;
            }
            else
            {
                r = fact(n - 1) * n;
            }
            return r;
        }
    }
    static void Main(string[] args)
    {
        factorial f = new factorial();
        int result = f.fact(4);
        Console.WriteLine("Factorial of 4 is");
        Console.WriteLine(result);
        Console.ReadLine();
    }
}
```

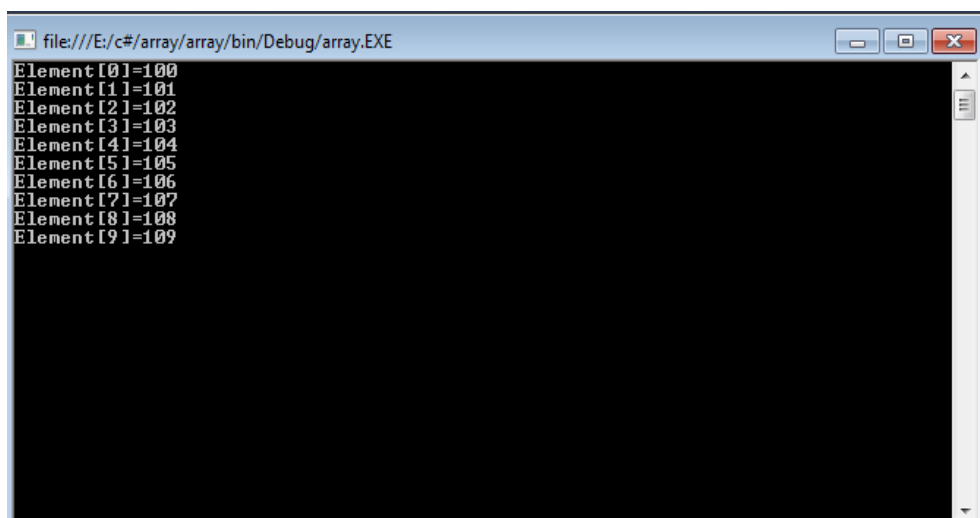
OUTPUT:



- **WAP to initialize and Display the value of array.**

```
using System;
using System.Collections.Generic;
using System.Linq;
using System.Text;
namespace array
{
    class array
    {
        static void Main(string[] args)
        {
            int[] n = new int[10];
            for (int i = 0; i < 10; i++)
            {
                n[i] = i + 100;
            }
            for (int j = 0; j < 10; j++)
            {
                Console.WriteLine("Element[{0}]={1}", j, n[j]);
            }
            Console.ReadKey();
        }
    }
}
```

OUTPUT:

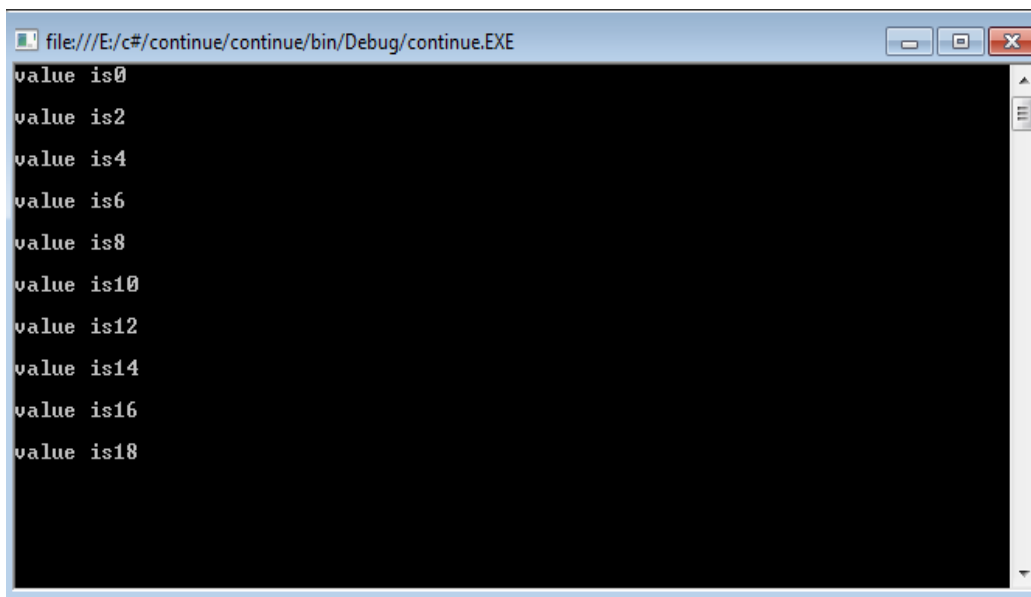


```
file:///E:/c#/array/array/bin/Debug/array.EXE
Element[0]=100
Element[1]=101
Element[2]=102
Element[3]=103
Element[4]=104
Element[5]=105
Element[6]=106
Element[7]=107
Element[8]=108
Element[9]=109
```

- **WAP to print even numbers from 0 to 20 using continue statement.**

```
using System;
using System.Collections.Generic;
using System.Linq;
using System.Text;
namespace continue
{
    class Program
    {
        static void Main(string[] args)
        {
            for (int i = 0; i < 20; i++)
            {
                if (i % 2 == 1)
                {
                    continue;
                }
                Console.WriteLine("value is {0}", i);
                Console.ReadLine();
            }
        }
    }
}
```

OUTPUT:



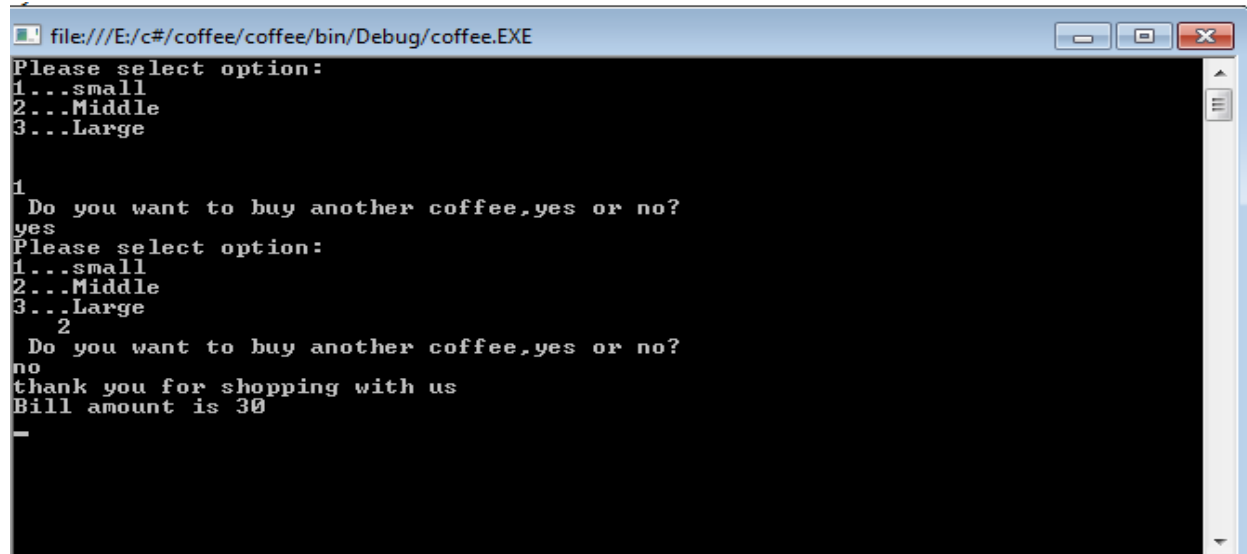
```
file:///E:/c#/continue/continue/bin/Debug/continue.EXE
value is 0
value is 2
value is 4
value is 6
value is 8
value is 10
value is 12
value is 14
value is 16
value is 18
```

- **WAP of Coffee Shopping using switch.**

```
using System;
using System.Collections.Generic;
using System.Linq;
using System.Text;
namespace coffee
{
    class shopping
    {
        static void Main(string[] args)
        {
            int TotalCoffeeCost = 0;
            Start:
            Console.WriteLine("Please select option: \n1...small \n2...Middle \n3...Large");
            int UserChoice = int.Parse(Console.ReadLine());
            switch (UserChoice)
            {
                case 1:
                    TotalCoffeeCost += 10;
                    break;
                case 2:
                    TotalCoffeeCost += 20;
                    break;
                case 3:
                    TotalCoffeeCost += 30;
                    break;
                default:
                    Console.WriteLine("your choice {0} is invalid", UserChoice);
                    goto Start;
            }
            Decide:
            Console.WriteLine(" Do you want to buy another coffee,yes or no?");
            string UserDecision = Console.ReadLine();
            switch (UserDecision.ToUpper())
            {
                case "YES":
                    goto Start;
                case "NO":
                    break;
                default:
                    Console.WriteLine("your choice {0} is invalid:please try again.");
                    goto Decide;
            }
            Console.WriteLine("thank you for shopping with us");
            Console.WriteLine("Bill amount is {0}", TotalCoffeeCost);
        }
    }
}
```

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

OUTPUT:

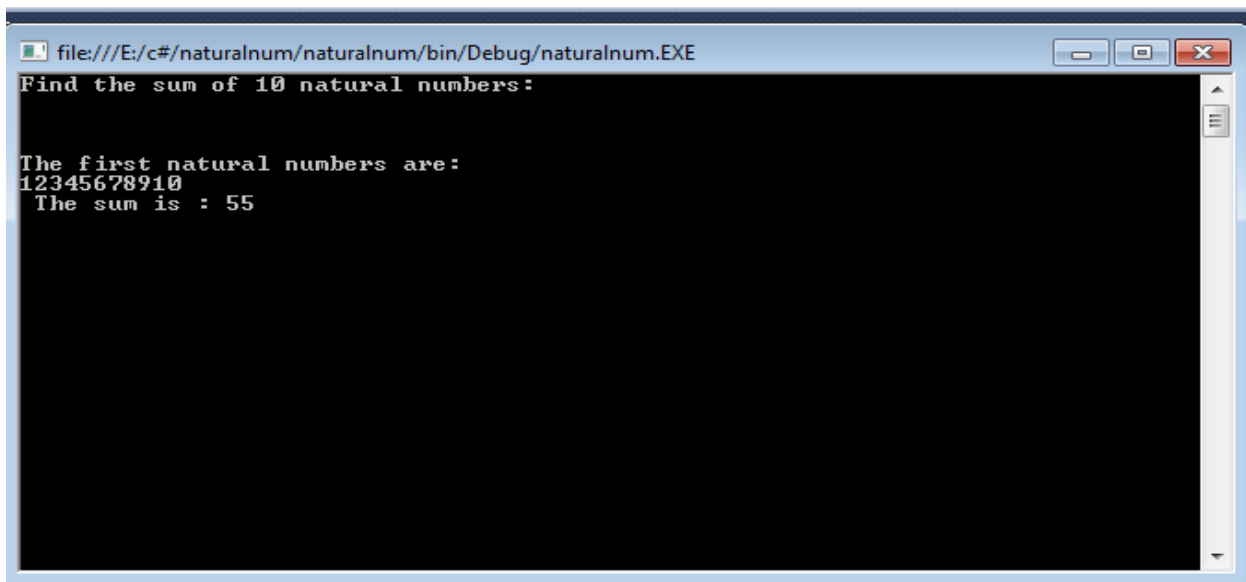


```
file:///E:/c#/coffee/coffee/bin/Debug/coffee.EXE  
Please select option:  
1...small  
2...Middle  
3...Large  
1  
Do you want to buy another coffee,yes or no?  
yes  
Please select option:  
1...small  
2...Middle  
3...Large  
2  
Do you want to buy another coffee,yes or no?  
no  
thank you for shopping with us  
Bill amount is 30  
-
```

- **WAP to find the sum of first 10 natural numbers.**

```
using System;
using System.Collections.Generic;
using System.Linq;
using System.Text;
namespace naturalnum
{
    class Program
    {
        static void Main(string[] args)
        {
            int j, sum = 0;
            Console.WriteLine("Find the sum of 10 natural numbers:\n");
            Console.Write("\n\n");
            Console.WriteLine("The first natural numbers are:\n");
            for (j = 1; j <= 10; j++)
            {
                sum = sum + j;
                Console.Write("{0}", j);
            }
            Console.WriteLine("\n The sum is : {0}\n", sum);
            Console.ReadLine();
        }
    }
}
```

OUTPUT:



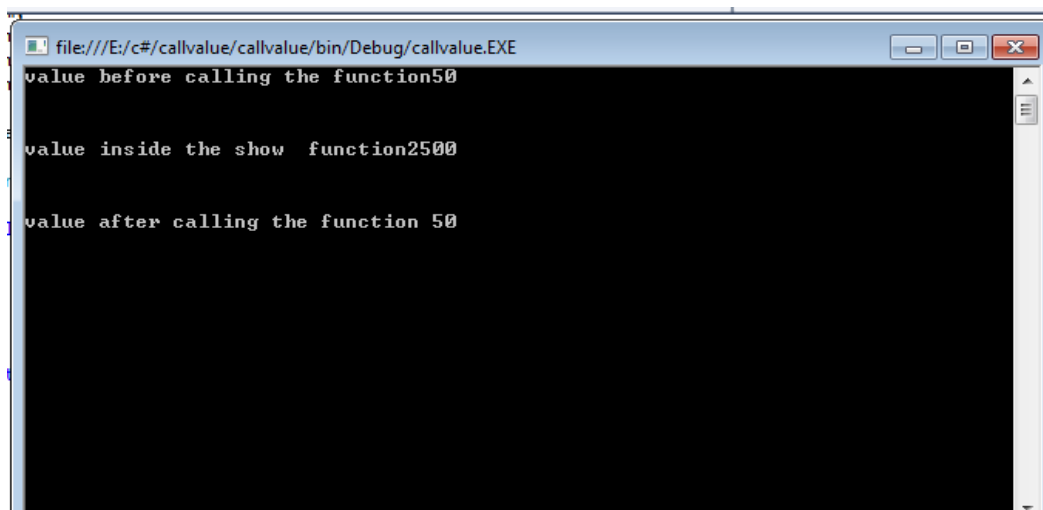
```
file:///E:/c#/naturalnum/naturalnum/bin/Debug/naturalnum.EXE
Find the sum of 10 natural numbers:

The first natural numbers are:
12345678910
The sum is : 55
```

- **WAP using call by value.**

```
using System;
using System.Collections.Generic;
using System.Linq;
using System.Text;
namespace callvalref
{
    class Program
    {
        public void show(int val)
        {
            val *= val;
            Console.WriteLine("value inside the show function" + val);
            Console.WriteLine("\n\n");
        }
        static void Main(string[] args)
        {
            int val = 50;
            Program p = new Program();
            Console.WriteLine("value before calling the function" + val);
            Console.WriteLine("\n\n");
            p.show(val);
            Console.WriteLine("value after calling the function " + val);
            Console.ReadLine();
        }
    }
}
```

OUTPUT:



```
file:///E:/c#/callvalue/callvalue/bin/Debug/callvalue.EXE
value before calling the function50

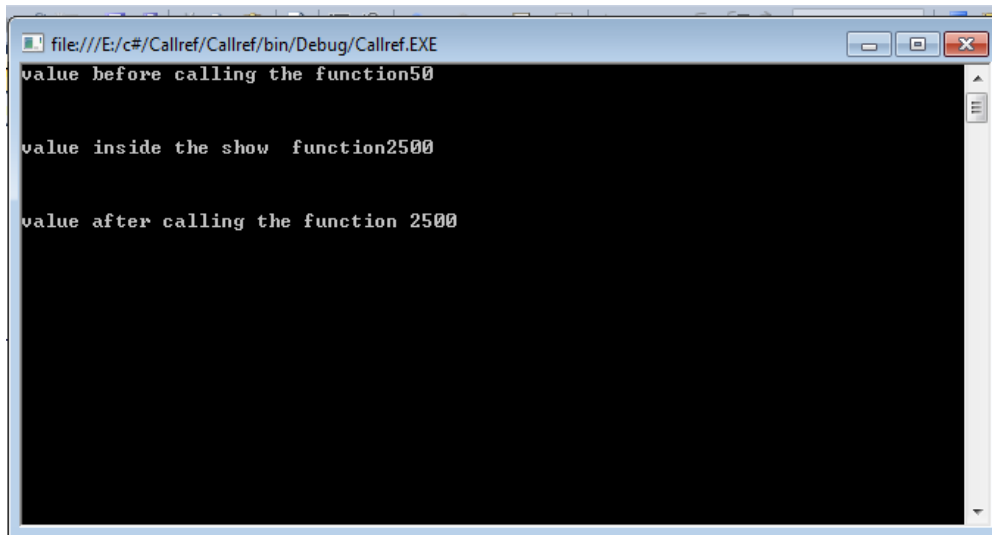
value inside the show function2500

value after calling the function 50
```

- **WAP using call by reference.**

```
using System;
using System.Collections.Generic;
using System.Linq;
using System.Text;
namespace Callref
{
    class Program
    {
        public void show(ref int val)
        {
            val *= val;
            Console.WriteLine("value inside the show function" + val);
            Console.WriteLine("\n\n");
        }
        static void Main(string[] args)
        {
            int val = 50;
            Program p = new Program();
            Console.WriteLine("value before calling the function" + val);
            Console.WriteLine("\n\n");
            p.show(ref val);
            Console.WriteLine("value after calling the function " + val);
            Console.ReadLine();
        }
    }
}
```

OUTPUT:



```
file:///E:/c#/Callref/Callref/bin/Debug/Callref.EXE
value before calling the function50

value inside the show function2500

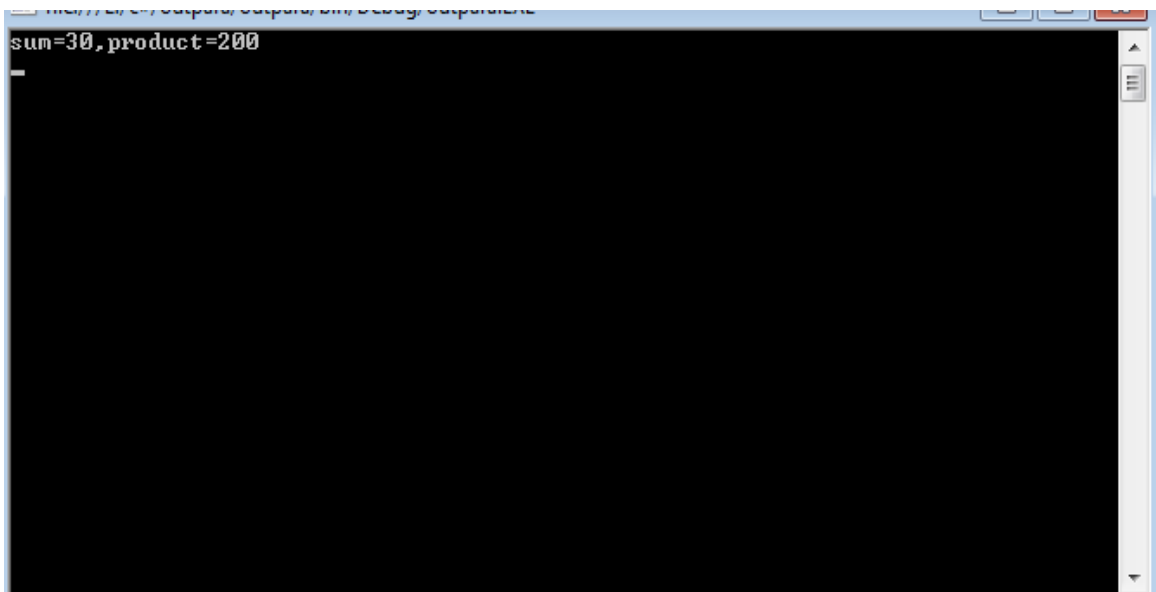
value after calling the function 2500
```

- **WAP using out parameters.**

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

namespace outpara
{
    class Program
    {
        static void Main(string[] args)
        {
            int total = 0;
            int product = 0;
            calculator(10, 20, out total, out product);
            Console.WriteLine("sum={0},product={1}", total, product);
            Console.ReadLine();
        }
        public static void calculator(int n1, int n2, out int s, out int p)
        {
            s = n1 + n2;
            p = n1 * n2;
        }
    }
}
```

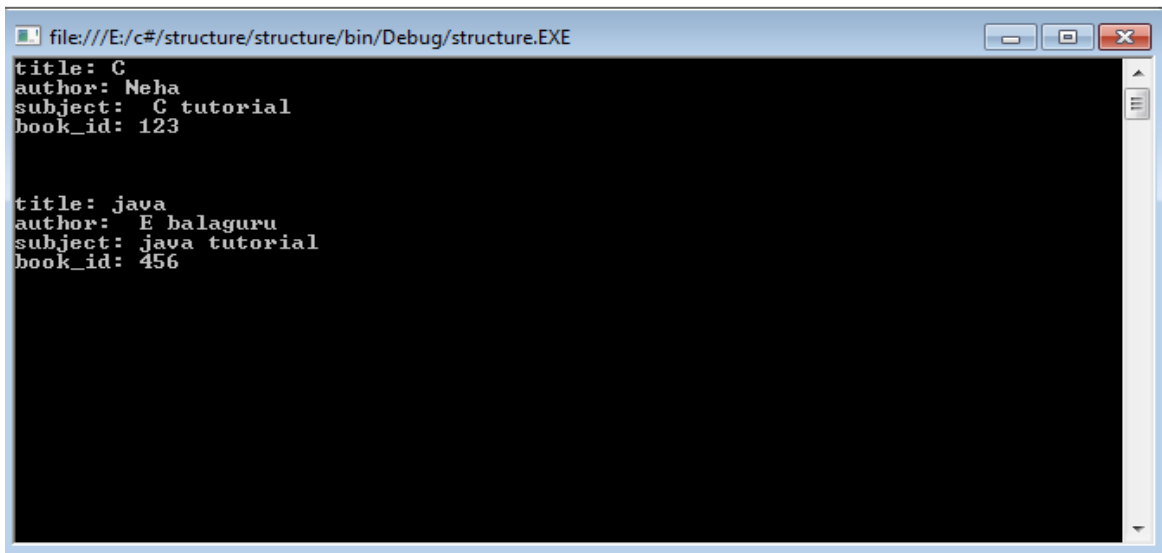
OUTPUT:



- **WAP using Structure.**

```
using System;
using System.Collections.Generic;
using System.Linq;
using System.Text;
namespace structure
{
    struct Books
    {
        private string title;
        private string author;
        private string subject;
        private int book_id;
        public void getvalues(string t, string a, string s, int id)
        {
            title = t;
            author = a;
            subject = s;
            book_id = id;
        }
        public void display()
        {
            Console.WriteLine("title: {0}", title);
            Console.WriteLine("author: {0}", author);
            Console.WriteLine("subject: {0}", subject);
            Console.WriteLine("book_id: {0}", book_id);
        }
    };
    public class testStructure
    {
        public static void Main(string[] args)
        {
            Books Book1 = new Books();
            Books Book2 = new Books();
            Book1.getvalues("C", "Neha", " C tutorial", 123);
            Book2.getvalues("java", " E balaguru", "java tutorial", 456);
            Book1.display();
            Console.WriteLine("\n\n\n");
            Book2.display();
            Console.ReadKey();
        }
    }
}
```

OUTPUT:



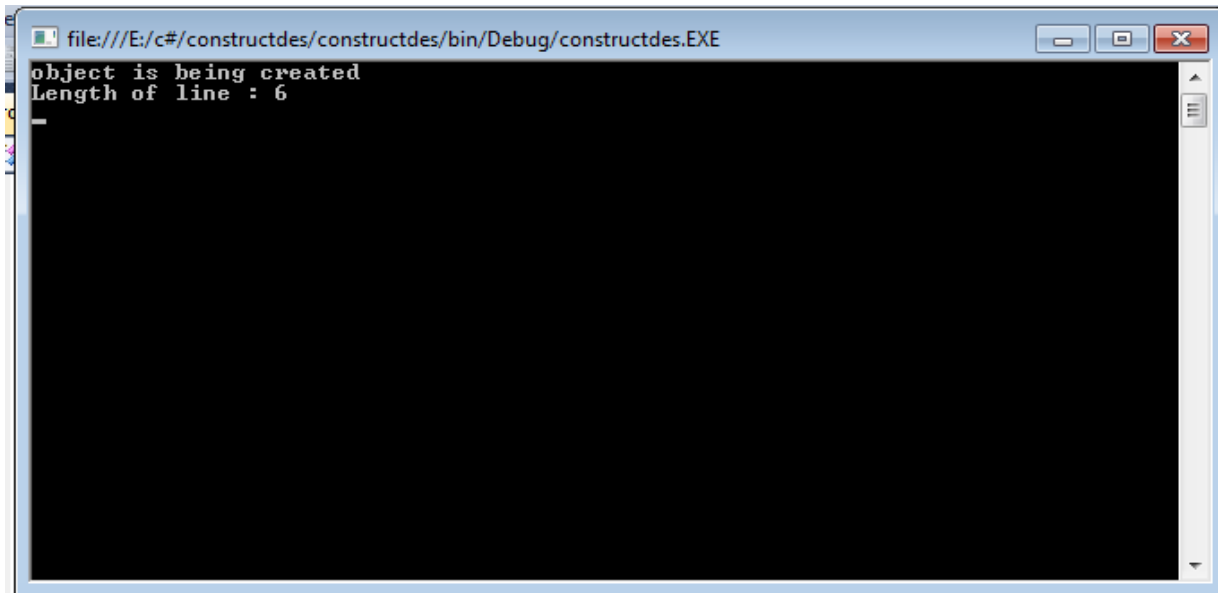
```
file:///E:/c#/structure/structure/bin/Debug/structure.EXE
title: C
author: Neha
subject: C tutorial
book_id: 123

title: java
author: E balaguru
subject: java tutorial
book_id: 456
```

- **WAP using Constructor and Destructor.**

```
using System;
using System.Collections.Generic;
using System.Linq;
using System.Text;
namespace constructdes
{
    class Line
    {
        private double length;
        public Line() // constructor
        {
            Console.WriteLine("object is being created");
        }
        ~Line() // destructor
        {
            Console.WriteLine("object is being deleted");
        }
        public void setlength(double len)
        {
            length=len;
        }
        public double getlength()
        {
            return length;
        }
        static void Main(string[] args)
        {
            Line line = new Line();
            line.setlength(6.0);
            Console.WriteLine("Length of line : {0}",line.getlength());
            Console.ReadLine();
        }
    }
}
```

OUTPUT:



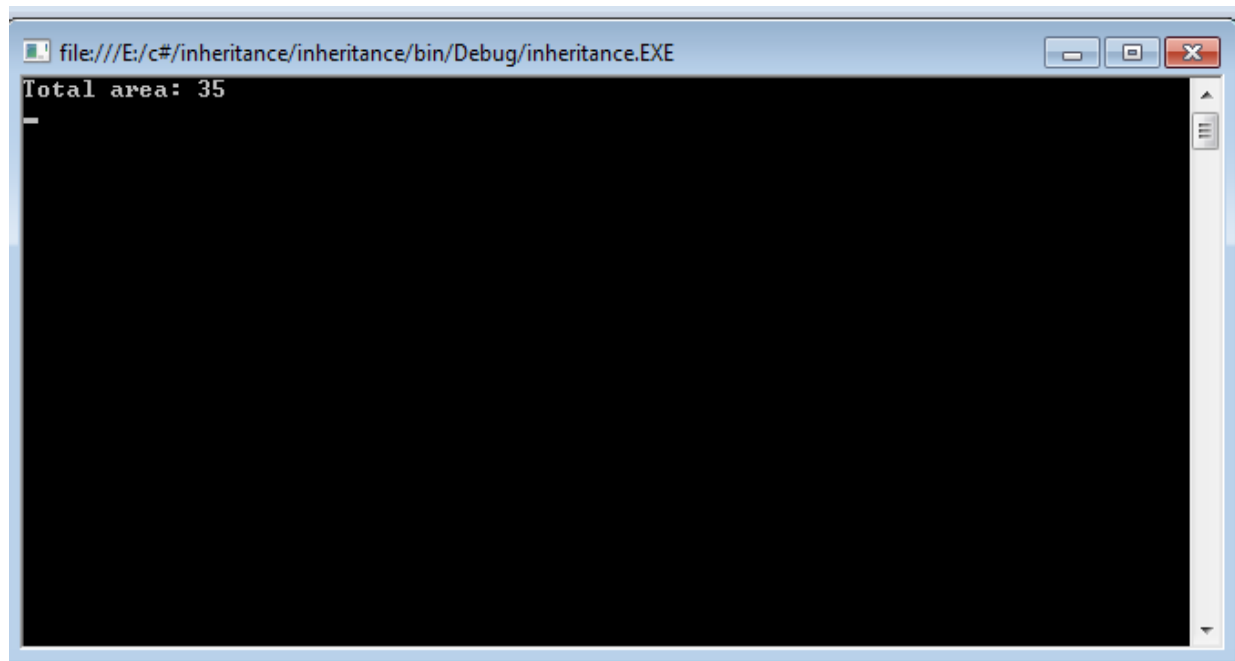
A screenshot of a Windows command prompt window. The title bar at the top reads "file:///E:/c#/constructdes/constructdes/bin/Debug/constructdes.EXE". The window has standard Windows window controls (minimize, maximize, close) on the right. The command prompt area is black with white text. The first line of output is "object is being created". The second line is "Length of line : 6". A single underscore character "_" is on the third line. The rest of the window is empty.

```
file:///E:/c#/constructdes/constructdes/bin/Debug/constructdes.EXE
object is being created
Length of line : 6
_
```

- **WAP using Inheritance.**

```
using System;
using System.Collections.Generic;
using System.Linq;
using System.Text;
namespace inheritance
{
    class shape
    {
        public void setwidth(int w)
        {
            width=w;
        }
        public void setheight(int h)
        {
            height = h;
        }
        protected int width;
        protected int height;
    }
    class rectangle : shape
    {
        public int getarea()
        {
            return (width * height);
        }
    }
    class rectangle_test
    {
        static void Main(string[] args)
        {
            rectangle rect = new rectangle();
            rect.setwidth(5);
            rect.setheight(7);
            Console.WriteLine("Total area: {0}", rect.getarea());
            Console.ReadKey();
        }
    }
}
```

OUTPUT:



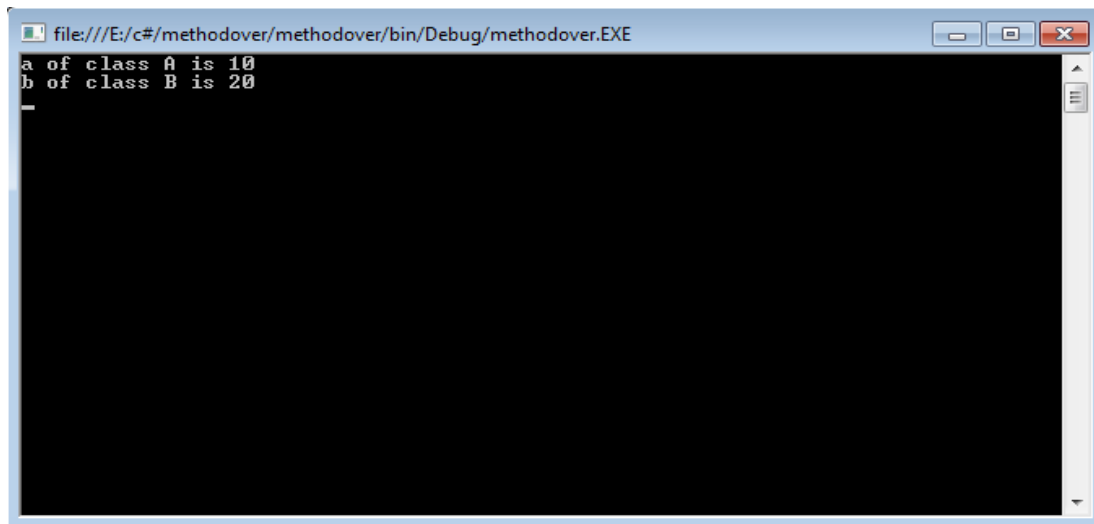
A screenshot of a Windows command prompt window. The title bar at the top reads "file:///E:/c#/inheritance/inheritance/bin/Debug/inheritance.EXE". The window contains the text "Total area: 35" followed by a single hyphen "-" on the next line. The rest of the window is black, indicating no further output.

```
file:///E:/c#/inheritance/inheritance/bin/Debug/inheritance.EXE
Total area: 35
-
```

- **WAP using Method Overriding.**

```
using System;
using System.Collections.Generic;
using System.Linq;
using System.Text;
namespace methodover
{
    class A
    {
        protected int a;
        public A(int x)
        {
            a = x;
        }
        public virtual void display()
        {
            Console.WriteLine("a of class A is {0}", a);
        }
    }
    class B : A
    {
        protected int b;
        public B(int x, int y)
            : base(x)
        {
            b = y;
        }
        public override void display()
        {
            Console.WriteLine("a of class A is {0}", a);
            Console.WriteLine("b of class B is {0}", b);
            Console.ReadLine();
        }
    }
    class methodoverride
    {
        static void Main(string[] args)
        {
            B obj = new B(10, 20);
            obj.display();
        }
    }
}
```

OUTPUT:



The image shows a screenshot of a Windows command prompt window. The title bar at the top reads "file:///E:/c#/methodover/methodover/bin/Debug/methodover.EXE". The window has standard Windows window controls (minimize, maximize, close) on the right. The command prompt area is black with white text. The output displayed is:

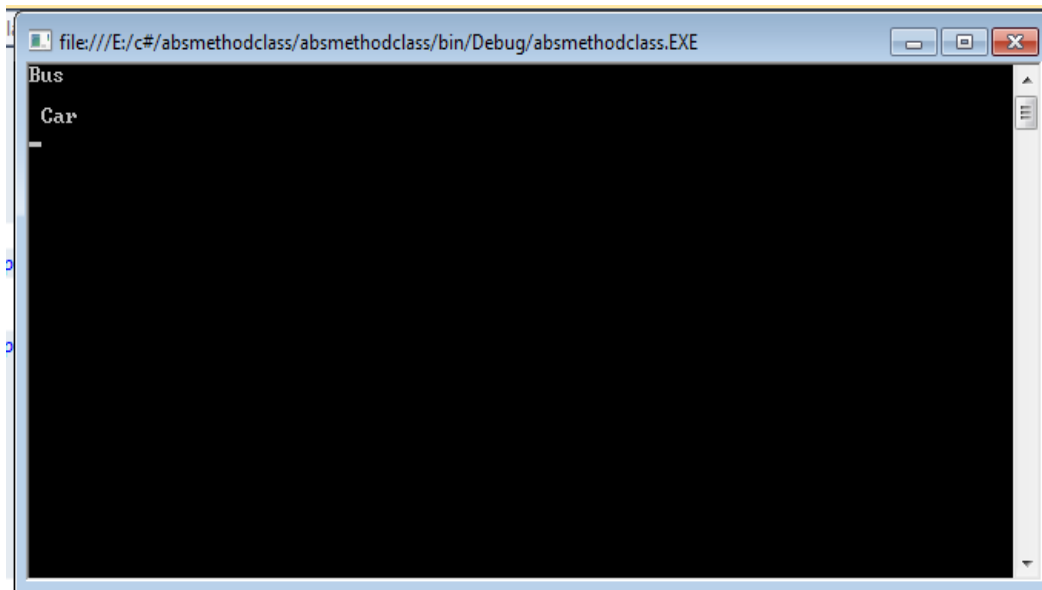
```
a of class A is 10  
b of class B is 20
```

There is a small white cursor on the line following the second line of output.

- **WAP using abstract method and class.**

```
using System;
using System.Collections.Generic;
using System.Linq;
using System.Text;
namespace absmethodclass
{
    public abstract class Vehicle
    {
        public abstract void display();
    }
    public class Bus : Vehicle
    {
        public override void display()
        {
            Console.WriteLine("Bus");
            Console.ReadLine();
        }
    }
    public class Car : Vehicle
    {
        public override void display()
        {
            Console.WriteLine(" Car");
            Console.ReadLine();
        }
    }
    public class Program
    {
        public static void Main()
        {
            Vehicle v;
            v = new Bus();
            v.display();
            v = new Car();
            v.display();
        }
    }
}
```

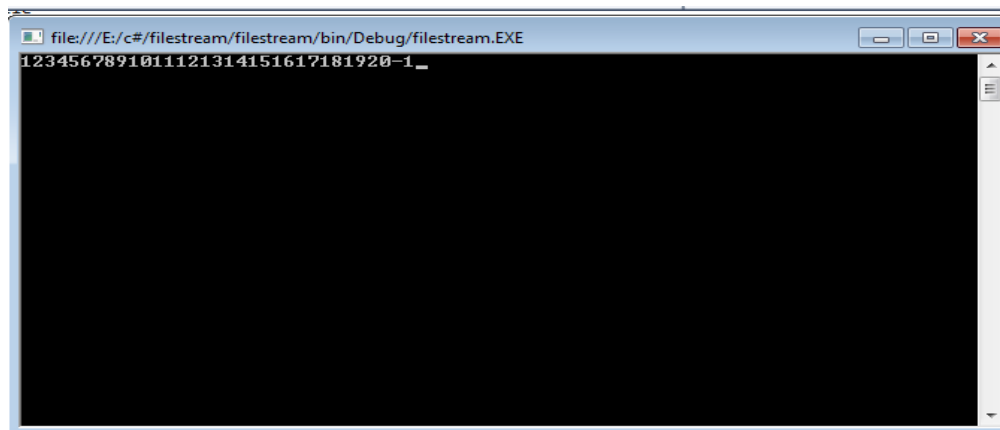
OUTPUT:



- **WAP using file stream.**

```
using System;
using System.Collections.Generic;
using System.Linq;
using System.Text;
using System.IO;
namespace file
{
    class Program
    {
        static void Main(string[] args)
        {
            FileStreamF = new FileStream("file.docx", FileMode.OpenOrCreate, FileAccess.ReadWrite);
            for (inti = 1; i <= 20; i++)
            {
                F.WriteByte((byte)i);
            }
            F.Position = 0;
            for (inti = 0; i <= 20; i++)
            {
                Console.Write(F.ReadByte() + "");
            }
            F.Close();
            Console.ReadKey();
        }
    }
}
```

OUTPUT:



- **WAP using BinaryReader and BinaryWriter.**

```

using System;
using System.Collections.Generic;
using System.Linq;
using System.Text;
using System.IO;
namespace binreadwrite
{
    public class BinStream
    {
        public BinStream()
        {
            Writer();
            Reader();
        }

        public static void Main()
        {
            BinStream bs = new BinStream();
            Console.ReadLine();
        }
        private void Writer()
        {
            try
            {
                Console.Out.WriteLine("preparing to write...");
                FileStream fout = new FileStream(@"file.docx", FileMode.OpenOrCreate, FileAccess.Write, FileShare.ReadWrite);
                BinaryWriter bw = new BinaryWriter(fout);
                string name = "gurpreet";
                int age = 21;
                double height = 5.4;
                bool single = true;
                char gender = 'f';

                bw.Write(name);
                bw.Write(age);
                bw.Write(height);
                bw.Write(single);
                bw.Write(gender);
                bw.Close();
                Console.WriteLine("data written");
                Console.WriteLine();
            }
            catch (IOException e)
            {
                Console.WriteLine("An IO Exception Occured:" + e);
            }
        }
    }
}

```

```

    }
}
private void Reader()
{
try
{
Console.WriteLine("preparing to read...");
FileStream fin = new FileStream(@"file.docx", FileMode.Open, FileAccess.Read,
FileShare.ReadWrite);
    BinaryReader b = new BinaryReader(fin);
b.BaseStream.Seek(0, SeekOrigin.Begin);

string name = b.ReadString();
int age = b.ReadInt32();
double height = b.ReadDouble();
bool single = b.ReadBoolean();
char gender = b.ReadChar();
Console.WriteLine("Name:" + name);
Console.WriteLine("Age:" + age);
Console.WriteLine("Height:" + height);
Console.WriteLine("single:" + single);
Console.WriteLine("Gender M/F:" + gender);
b.Close();
Console.WriteLine("data Read");

Console.ReadLine();
}
catch (IOException e)
{
Console.WriteLine("An IO Exception Occured:" + e);
}

}
}
}

```

OUTPUT:



```
file:///c:/users/abcu/documents/visual studio 2010/Projects/ConsoleApplication1/ConsoleApplication1/bin/Debug/ConsoleApplication1.EXE
preparing to write...
data written
preparing to read...
Name:gurpreet
Age:21
Height:5.4
single:True
Gender M/F:f
data Read
```

- **WAP to display form using oledb connection.**

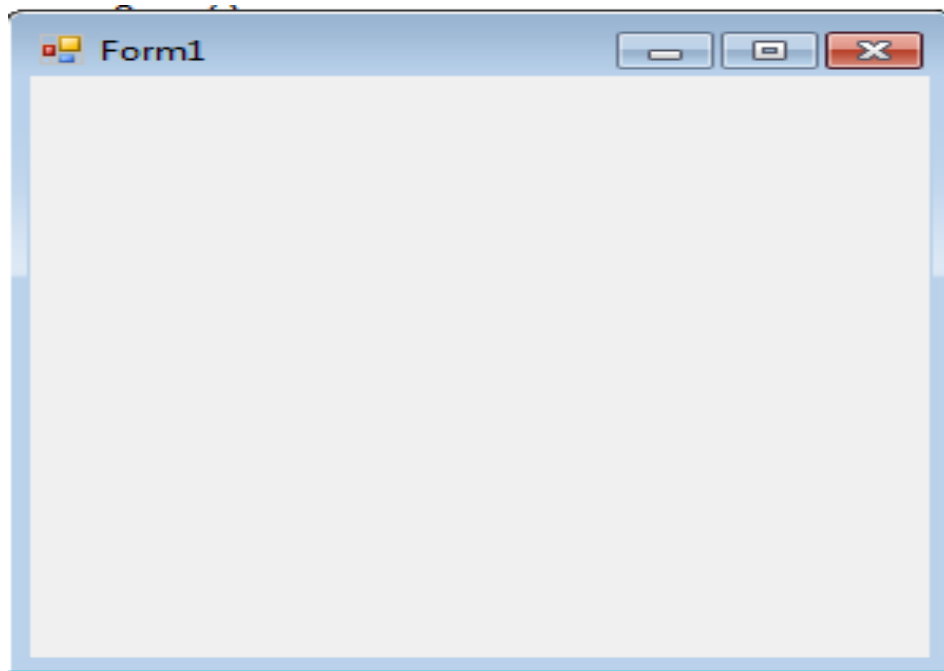
```

using System;
using System.Collections.Generic;
using System.ComponentModel;
using System.Data;
using System.Drawing;
using System.Linq;
using System.Text;
using System.Windows.Forms;
using System.Data.OleDb;
namespace form_oledb
{
    public partial class Form1 : Form
    {
        public Form1()
        {
            InitializeComponent();
        }
        private void Form1_Load(object sender, EventArgs e)
        {
            string constr = null;
            OleDbCommand cmd;
            OleDbConnection con;
            OleDbDataReader reader;
            string sql = null;
            constr = @"Provider=Microsoft.ACE.OLEDB.12.0;Data Source=E:\c#\Database1.accdb;Persist
            Security Info=false";
            sql="select *from emp_data";
            con=new OleDbConnection(constr);
            try
            {
                con.Open();
                cmd=new OleDbCommand(sql,con);
                reader=cmd.ExecuteReader();
                while(reader.Read())
                {
                    MessageBox.Show(reader.GetValue(0)+ "-" + reader.GetValue(1)+"-"+reader.GetValue(2));
                }
                reader.Close();
                cmd.Dispose();
                con.Close();
            }
            catch(Exception ex)
            {

```

```
MessageBox.Show("can not open connection" +ex);  
    }  
}  
}
```

OUTPUT:



- **Create a form to display data in Gridview.**

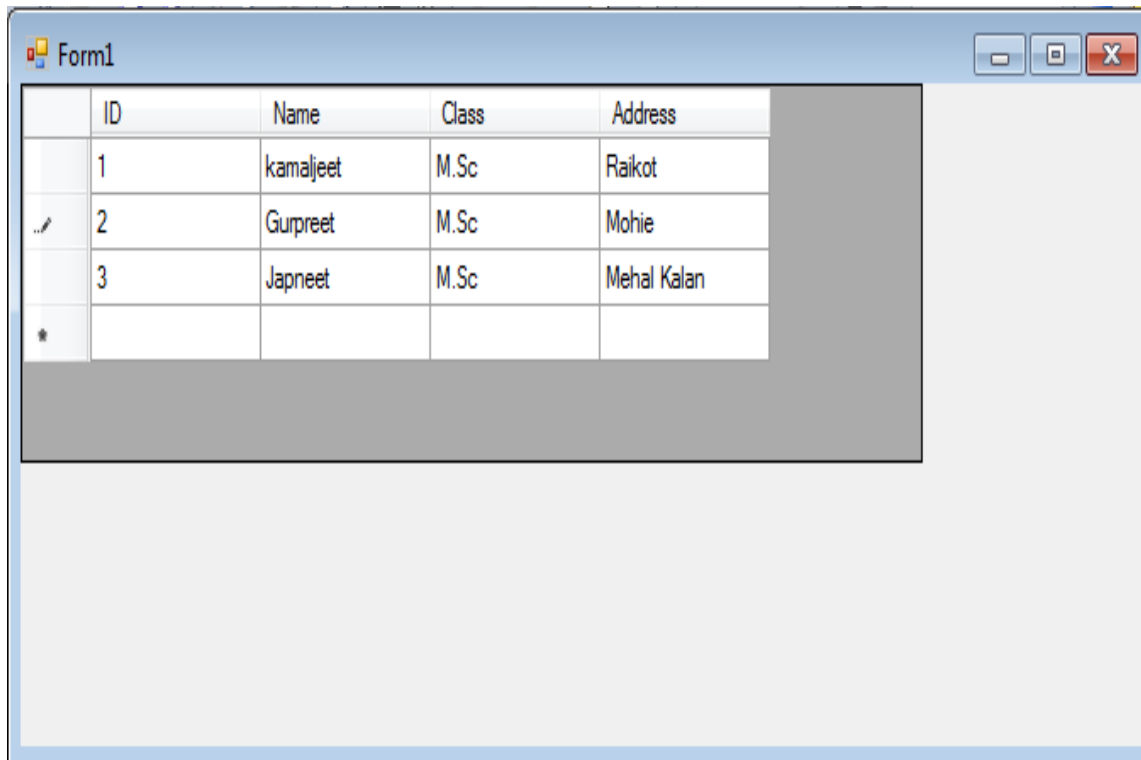
```

using System;
using System.Collections.Generic;
using System.ComponentModel;
using System.Data;
using System.Drawing;
using System.Linq;
using System.Text;
using System.Windows.Forms;
using System.Data.OleDb;
namespace OleDb_dataset
{
    public partial class Form1 : Form
    {
        public Form1()
        {
            InitializeComponent();
        }

        private void Form1_Load(object sender, EventArgs e)
        {
            string que = @"Provider=Microsoft.ACE.OLEDB.12.0;
            Data Source=E:\c#\Database1.accdb;Persist Security Info=false";
            OleDbConnection con = new OleDbConnection(que);
            con.Open();
            string query = "select * from emp_data";
            OleDbDataAdapter da = new OleDbDataAdapter(query, con);
            DataSet ds = new DataSet();
            da.Fill(ds, "emp_data");
            dataGridView1.DataSource = ds.Tables["emp_data"];
        }
    }
}

```

OUTPUT:



The screenshot shows a Windows application window titled "Form1". Inside the window, there is a table with five columns: "ID", "Name", "Class", and "Address". The table contains three rows of data. To the left of the table, there are three small icons: a pencil, an eraser, and a star. The table is set against a light gray background.

	ID	Name	Class	Address
	1	kamaljeet	M.Sc	Raikot
✎	2	Gurpreet	M.Sc	Mohie
	3	Japneet	M.Sc	Mehar Kalan
★				

- **Create a form to add a column into table .**

```

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 datatable
{
    public partial class Form1 : Form
    {
        public Form1()
        {
            InitializeComponent();

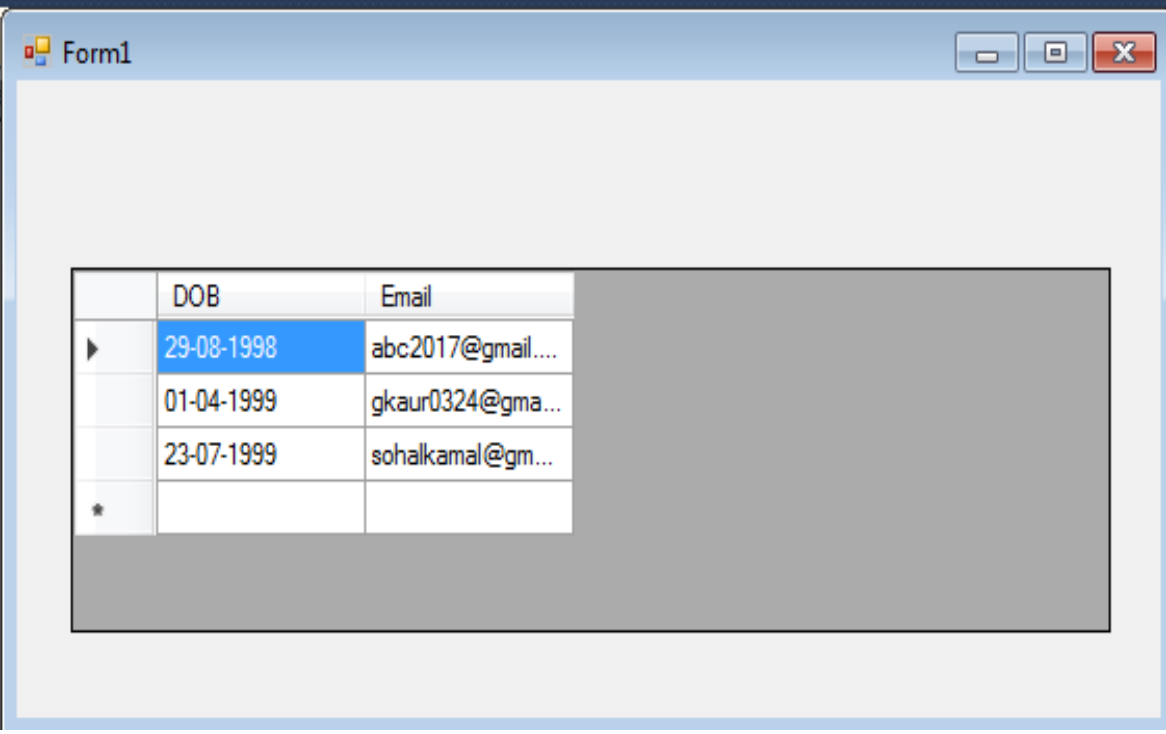
            private void Form1_Load(object sender, EventArgs e)
            {
                DataTable table = new DataTable();

                table.Columns.Add("DOB");
                table.Columns.Add("Email");
                table.Rows.Add("29-08-1998", "abc@gmail.com");
                table.Rows.Add("01-04-1999", "gkaur0324@gmail.com");
                table.Rows.Add("23-07-1999", "sohalkamal2017@gmail.com");

                dataGridView1.DataSource = table;
            }
        }
    }
}

```

OUTPUT:



The screenshot shows a Windows application window titled "Form1". Inside the window, there is a table with two columns: "DOB" and "Email". The table has four rows. The first row is highlighted in blue. The second and third rows contain data. The fourth row is empty and has a small asterisk icon in the first column. The table is set against a light gray background.

	DOB	Email
▶	29-08-1998	abc2017@gmail....
	01-04-1999	gkaur0324@gma...
	23-07-1999	sohalkamal@gm...
*		

- **Create a form to show data in Lable using Oledb data table.**

```

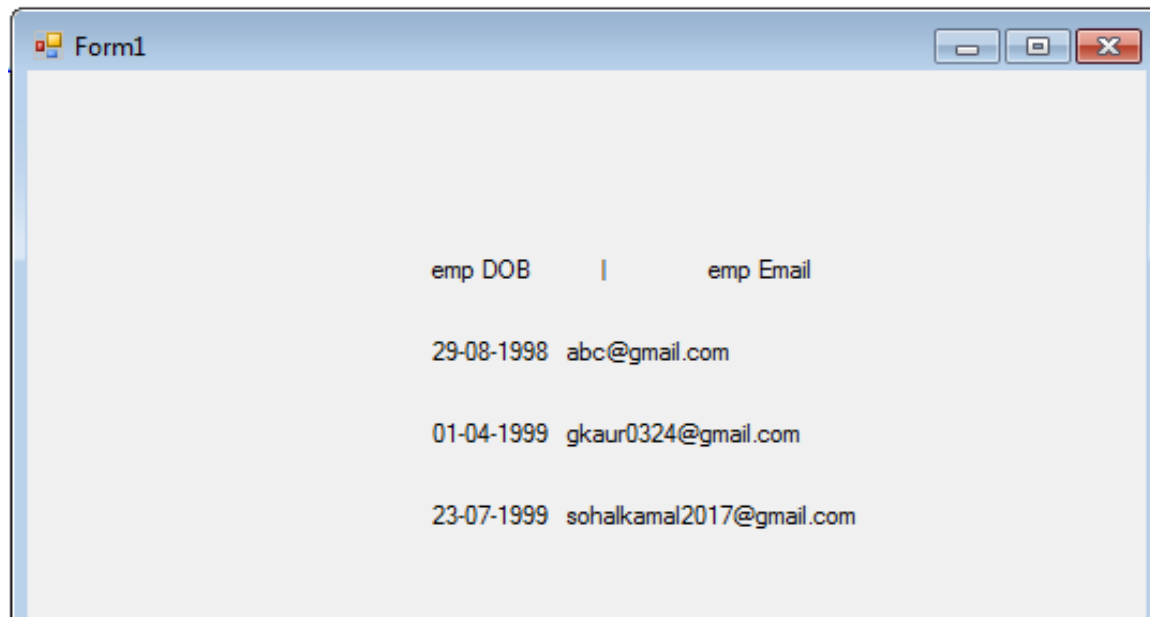
using System;
using System.Collections.Generic;
using System.ComponentModel;
using System.Data;
using System.Drawing;
using System.Linq;
using System.Text;
using System.Windows.Forms;
namespace datatviewable
{
    public partial class Form1 : Form
    {
        public Form1()
        {
            InitializeComponent();
        }

        private void Form1_Load(object sender, EventArgs e)
        {
            DataTable table = new DataTable();

            table.Columns.Add("DOB");
            table.Columns.Add("Email");
            table.Rows.Add("29-08-1998", "abc@gmail.com");
            table.Rows.Add("01-04-1999", "gkaur0324@gmail.com");
            table.Rows.Add("23-07-1999", "sohalkamal2017@gmail.com");
            DataView dv = new DataView(table);
            label1.Text = "emp DOB      |      emp Email";
            foreach (DataRowView view in dv)
            {
                label1.Text = label1.Text + "\n\n" + view["DOB"].ToString();
                label1.Text = label1.Text + "  " + view["Email"].ToString();
            }
        }
    }
}

```

OUTPUT:



A screenshot of a Windows application window titled "Form1". The window contains a table with two columns: "emp DOB" and "emp Email". The table has three rows of data. The first row shows "29-08-1998" and "abc@gmail.com". The second row shows "01-04-1999" and "gkaur0324@gmail.com". The third row shows "23-07-1999" and "sohalkamal2017@gmail.com".

emp DOB	emp Email
29-08-1998	abc@gmail.com
01-04-1999	gkaur0324@gmail.com
23-07-1999	sohalkamal2017@gmail.com