

## SAMPLE CODE: GRAPHICS, ENVIRONMENT, DATABASE

---

### EXAMPLE 1: RUBBERBAND BOXES, USING A DISPLAY LIST, HIT TESTING

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

//This code is based on: http://support.microsoft.com/kb/314945

namespace RBRectangle
{
    public partial class Form1 : Form
    {
        bool bHaveMouse = false;
        Point ptOriginal = new Point();
        Point ptLast = new Point();
        List<Rectangle> rectList = new List<Rectangle>();

        public Form1()
        {
            InitializeComponent();
        }

        private void Form1_MouseDown(object sender, MouseEventArgs e)
        {
            if (e.Button == MouseButtons.Left)
            {
                // Make a note that we "have the mouse".
                bHaveMouse = true;
                // Store the "starting point" for this rubber-band rectangle.
                ptOriginal.X = e.X;
                ptOriginal.Y = e.Y;
                // Special value lets us know that no previous
                // rectangle needs to be erased.
                ptLast.X = -1;
                ptLast.Y = -1;
            }
            else if (e.Button == MouseButtons.Right)
            {
                Rectangle rectToRemove = new Rectangle();
                bool hitTest = false;
                foreach (Rectangle r in rectList)
                {
                    if (r.Contains(e.X, e.Y))
                    {
                        if (MessageBox.Show("Delete this rectangle?", "Right click
in rectangle", MessageBoxButtons.YesNo) == DialogResult.Yes)
                        {
                            rectToRemove = r;
                            hitTest = true;
                            break;
                        }
                    }
                }
            }
        }
    }
}
```



```

        ControlPaint.DrawReversibleFrame( RectangleToScreen(r),
            Color.Red, FrameStyle.Thick );
    }

    private void MyDrawRealRectangle( Rectangle r )
    {
        // Draw the rectangle.
        Graphics g = CreateGraphics();
        Pen p = new Pen(Color.Red, 3);
        g.DrawRectangle(p, r);
        p.Dispose();
        g.Dispose();
    }

    private Rectangle MakeRectangle( Point p1, Point p2 )
    {
        Rectangle rc = new Rectangle();

        // Normalize the rectangle.
        if( p1.X < p2.X )
        {
            rc.X = p1.X;
            rc.Width = p2.X - p1.X;
        }
        else
        {
            rc.X = p2.X;
            rc.Width = p1.X - p2.X;
        }
        if( p1.Y < p2.Y )
        {
            rc.Y = p1.Y;
            rc.Height = p2.Y - p1.Y;
        }
        else
        {
            rc.Y = p2.Y;
            rc.Height = p1.Y - p2.Y;
        }

        return rc;
    }

    private void Form1_Paint(object sender, PaintEventArgs e)
    {
        Graphics g = e.Graphics;

        foreach(Rectangle r in rectList)
        {
            MyDrawRealRectangle(r);
        }
    }
}

```

## EXAMPLE 2: USING SYSTEM.ENVIRONMENT

```
using System;
```

```

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

namespace EnvironmentDemo
{
    class Program
    {
        static void Main(string[] args)
        {
            GetEnvironmentInfo();
        }

        public static void GetEnvironmentInfo()
        {
            Console.WriteLine("Current OS: {0}", Environment.OSVersion);
            Console.ReadLine();
            Console.WriteLine("CLR Version: {0}", Environment.Version);
            Console.ReadLine();
            Console.WriteLine("The name of this machine is: {0}",
Environment.MachineName);
            Console.ReadLine();
            string[] drives = Environment.GetLogicalDrives();
            Console.WriteLine("The drives on this machine are:");
            for (int i = 0; i < drives.Length; i++)
                Console.WriteLine(" Drive {0}: {1}", i, drives[i]);
            Console.ReadLine();
            Console.WriteLine("The number of processors is: {0}",
Environment.ProcessorCount);
            Console.ReadLine();
            Console.WriteLine("The current directory is: {0}",
Environment.CurrentDirectory);
            Console.ReadLine();
            Console.WriteLine("Size of working set for this process: {0}",
Environment.WorkingSet);
            Console.ReadLine();
            Console.WriteLine("Seconds since system started: {0}",
Environment.TickCount / 1000);
            Console.ReadLine();
            Console.WriteLine("Cookies are at: {0}",
Environment.GetFolderPath(Environment.SpecialFolder.Cookies));
            Console.ReadLine();
            Console.WriteLine("History is at: {0}",
Environment.GetFolderPath(Environment.SpecialFolder.History));
            Console.ReadLine();
            Console.WriteLine("Favorites are at: {0}",
Environment.GetFolderPath(Environment.SpecialFolder.Favorites));
            Console.ReadLine();
            Console.WriteLine("Stack trace: \r\n{0}", Environment.StackTrace);
            Console.ReadLine();
            Console.WriteLine("\r\nLast credit card used:");
            Console.ReadLine();
            Console.WriteLine("    ... you've got to be kidding!\r\n");
            Console.ReadLine();
        }
    }
}

```

### EXAMPLE 3: SIMPLE DATABASE ACCESS WITHOUT USE OF THE DESIGNER

```

using System;
using System.Collections.Generic;
using System.ComponentModel;
using System.Data;
using System.Drawing;
using System.Text;
using System.Windows.Forms;
using System.Data.Sql;
using System.Data.SqlClient;

namespace LectDB1Custom
{
    public partial class Form1 : Form
    {
        DataSet dataSet;
        SqlDataAdapter adapter;
        SqlConnection conn;
        SqlCommand selectCommand;

        public Form1()
        {
            InitializeComponent();
            ShowData();
        }

        private void ShowData()
        {
            dataSet = new DataSet();
            adapter = new SqlDataAdapter();
            conn = new SqlConnection(
@"Data Source=MACHINENAMEGOESHERE\SQLEXPRESS;Initial Catalog=TestSQL2;Integrated
Security=True");
            selectCommand = new SqlCommand("SELECT * FROM Lecturers", conn);
            adapter.SelectCommand = selectCommand;
            adapter.Fill(dataSet, "Lect");
            dataGridView1.DataSource = dataSet.Tables["Lect"];
        }
    }
}

```