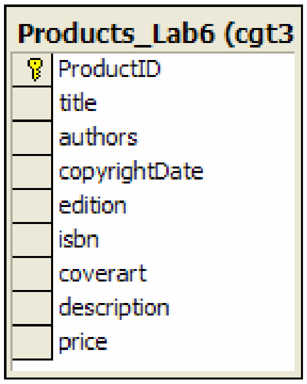
Lab05.sql - Use this database table

```
-- Create the table to interact with
CREATE TABLE Products_Lab5(
ProductID     int IDENTITY PRIMARY KEY,
title         varchar(100),
authors       varchar(100),
copyrightDate varchar(6),
edition       varchar(6),
isbn          varchar(25),
coverart      varchar(100),
description   varchar(100),
price         varchar(100)
);
```



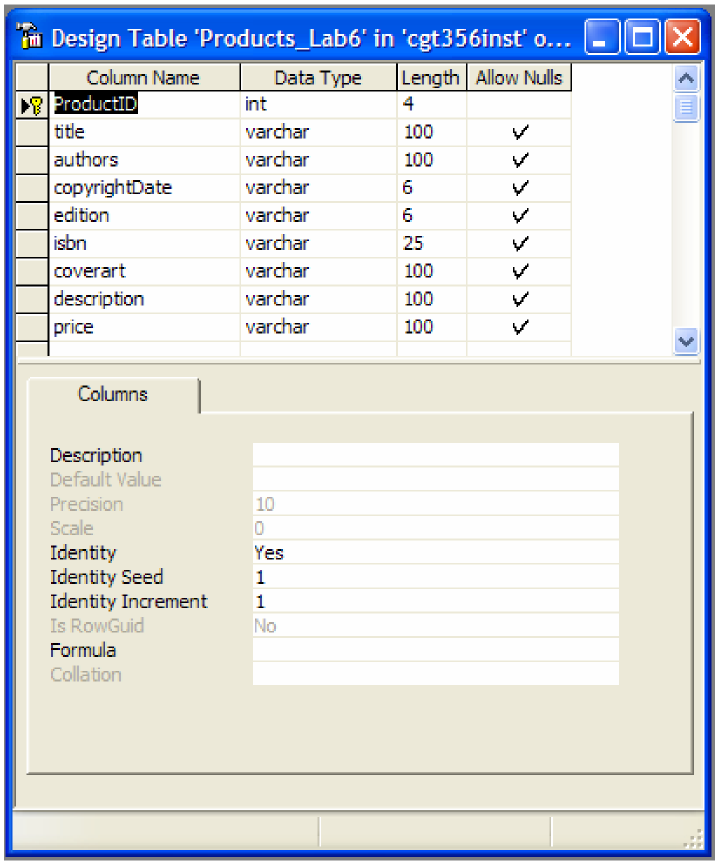
Products_Lab6 (cgt3

ProductID
title
authors
copyrightDate
edition
isbn
coverart
description
price

```
-- Insert some data to begin with
INSERT INTO Products_Lab5(title, authors, copyrightDate, edition, isbn, coverart, description,
price) VALUES('Visual Basic .NET How to Program: Second Edition', 'Harvey M. Deitel, Paul J. Deitel
& Tem R. Nieto', '2002', 2, '0-13-029363-6', 'vbnethtp2.png', 'Microsoft Visual Basic .NET',
76.00);

INSERT INTO Products_Lab5(title, authors, copyrightDate, edition, isbn, coverart, description,
price) VALUES('C++ How to Program: Fourth Edition', 'Harvey M. Deitel & Paul J. Deitel', '2002', 4,
'0-13-038474-7', 'cpphtp4.png', 'Introduces Web Programming with CGI', 76.00);

INSERT INTO Products_Lab5(title, authors, copyrightDate, edition, isbn, coverart, description,
price) VALUES('C# How to Program: First Edition', 'Harvey M. Deitel, Paul J. Deitel, Jeff
Listfield, Tem R. Nieto, Cheryl Yaeger & Marina Zlatkina', '2002', 1, '0-13-062221-4',
'csharphtp1.png', 'Introduces .NET and Web services', 76.00);
```

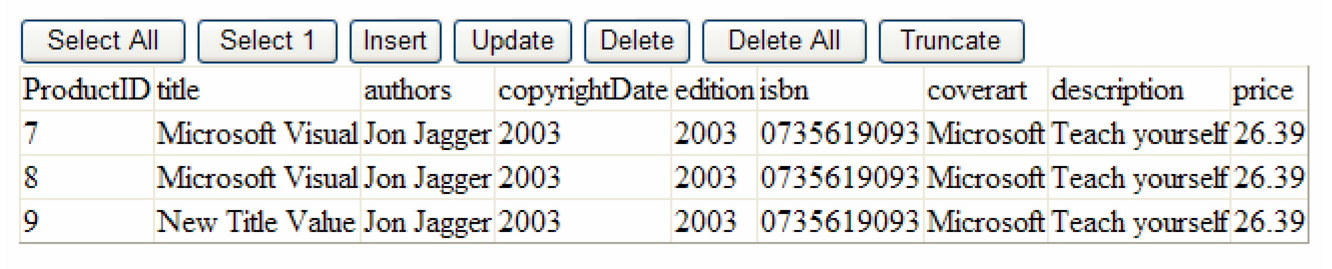


Design Table 'Products_Lab6' in 'cgt356inst' o...

Column Name	Data Type	Length	Allow Nulls
ProductID	int	4	
title	varchar	100	✓
authors	varchar	100	✓
copyrightDate	varchar	6	✓
edition	varchar	6	✓
isbn	varchar	25	✓
coverart	varchar	100	✓
description	varchar	100	✓
price	varchar	100	✓

Description	
Default Value	
Precision	10
Scale	0
Identity	Yes
Identity Seed	1
Identity Increment	1
Is RowGuid	No
Formula	
Collation	

Lab05params.aspx



ProductID	title	authors	copyrightDate	edition	isbn	coverart	description	price
7	Microsoft Visual	Jon Jagger	2003	2003	0735619093	Microsoft	Teach yourself	26.39
8	Microsoft Visual	Jon Jagger	2003	2003	0735619093	Microsoft	Teach yourself	26.39
9	New Title Value	Jon Jagger	2003	2003	0735619093	Microsoft	Teach yourself	26.39

Lab05params.aspx

```
<%@ Page language="c#" Codebehind="Lab05params.aspx.cs" AutoEventWireup="false" Inherits="Lab05.Lab05params" %>
<!DOCTYPE HTML PUBLIC "-//W3C//DTD HTML 4.0 Transitional//EN" >
<HTML>
   <HEAD>
      <title>Lab05params</title>
      <meta name="CODE_LANGUAGE" Content="C#">
      <meta name="vs_defaultClientScript" content="JavaScript">
      <meta name="vs_targetSchema" content="http://schemas.microsoft.com/intellisense/ie5">
   </HEAD>
   <body MS_POSITIONING="GridLayout">
      <form id="Form1" method="post" runat="server">
         <asp:Button Runat="server" ID="select" Text="Select All" OnClick="Select_Click" />
         <asp:Button Runat="server" ID="selectOne" Text="Select 1" OnClick="SelectOne_Click" />
         <asp:Button Runat="server" ID="insert" Text="Insert" OnClick="Insert_Click" />
         <asp:Button Runat="server" ID="update" Text="Update" OnClick="Update_Click" />
         <asp:Button Runat="server" ID="delete" Text="Delete" OnClick="Delete_Click" />
         <asp:Button Runat="server" ID="deleteAll" Text="Delete All" OnClick="DeleteAll_Click" />
         <asp:Button Runat="server" ID="truncate" Text="Truncate" OnClick="Truncate_Click" />

         <!-- A DataGrid is a data bound list control that displays the items from a
         data source in a table. Use the DataGrid control to display the fields of a
         data source as columns in a table. Each row in the DataGrid control represents
         a record in the data source. The DataGrid control supports selection, editing,
         deleting, paging, and sorting. -->
         <asp:DataGrid Runat="server" ID="results" />
      </form>
   </body>
</HTML>
```

Lab05params.aspx.cs

```
using System;
using System.Data;
using System.Data.SqlClient;
using System.Web;
using System.Web.UI;
using System.Web.UI.WebControls;

namespace Lab05
{
   /// <summary>
   /// ///////////////////////////////////////////////////////////////////
   ///      Author: Ronald J. Glotzbach
   ///
   ///        Date: February 18, 2005
   ///
   ///     Project: CGT 456 Lab05 Solution B using Parameters
   /// ///////////////////////////////////////////////////////////////////
   /// Summary description for Lab05params class.
   /// Lab05params uses the Parameters property of the SqlCommand class to
   /// allow parameters (or placeholders) to appear in SQL statements and
   /// the values of those placeholders to be passed in later.
   /// </summary>
   public class Lab05params : System.Web.UI.Page
   {
      // Declare global variables
      // Pull controls over from aspx
      protected System.Web.UI.WebControls.DataGrid results;
      protected System.Web.UI.WebControls.Button   select;
      protected System.Web.UI.WebControls.Button   selectOne;
      protected System.Web.UI.WebControls.Button   insert;
      protected System.Web.UI.WebControls.Button   update;
      protected System.Web.UI.WebControls.Button   delete;
      protected System.Web.UI.WebControls.Button   deleteAll;
      protected System.Web.UI.WebControls.Button   truncate;
      // Declare global objects to be used
      public    String   ConnStr = "server=sotdev4.tech.purdue.edu;uid=xxx;pwd=yyy;database=zzz";
      public    SqlConnection            oConn;
      public    SqlCommand               myCommand;
      public    SqlDataReader            myReader;
      public    SqlDataAdapter           sda;
      public    DataSet                  ds;
      public    DataTable                dt;
      public    String                   Sql;

      /// <summary>
      /// function Select_Click()
      /// When the Select All Button is clicked, all of the records will be
      /// selected and binded to the DataGrid.
      /// </summary>
      /// <param name="Source"></param>
      /// <param name="E"></param>
      protected void Select_Click(Object Source, EventArgs E)
      {
         // Create the SQL statement
         Sql       = "SELECT * FROM Products_Lab5";
         // Create a new connection object using the connection string above.
         // oConn represents an open connection to a SQL Server database.
         oConn     = new SqlConnection(ConnStr);
         // Create a new SQL command using the SQL command and connection object
         myCommand = new SqlCommand(Sql, oConn);

         // Open the connection to the database
         oConn.Open();
```

```
    // set the data source
    results.DataSource = myCommand.ExecuteReader();

    // bind the data source to the DataGrid
    results.DataBind();

    // Close the connection to the database
    oConn.Close();
}

/// <summary>
/// function SelectOne_Click()
/// When the SelectOne Button is clicked, the record with the maximum
/// ProductID will be selected and binded to a DataGrid.
/// </summary>
/// <param name="Source"></param>
/// <param name="E"></param>
protected void SelectOne_Click(Object Source, EventArgs E)
{
    // Get the max id
    // Create the SQL statement
    Sql       = "SELECT Max(ProductID) AS MaxID FROM Products_Lab5";
    // Create a new connection object using the connection string above.
    // oConn represents an open connection to a SQL Server database.
    oConn     = new SqlConnection(ConnStr);
    // Create a new SQL command using the SQL command and connection object.
    // myCommand represents a SQL statement or stored procedure to execute
    // against a SQL Server database.
    myCommand = new SqlCommand(Sql, oConn);

    // Open the connection to the database
    oConn.Open();

    // Instantiate an instance of the SqlDataAdapter class
    // The SqlDataAdapter, serves as a bridge between a DataSet and SQL Server
    // for retrieving and saving data. The SqlDataAdapter provides this bridge
    // by mapping Fill, which changes the data in the DataSet to match the data
    // in the data source, and Update, which changes the data in the data source
    // to match the data in the DataSet, using the appropriate Transact-SQL
    // statements against the data source.
    sda = new SqlDataAdapter();
    // Set the value of the SDA select command equal to the command object.
    // SelectCommand gets or sets a SQL statement used to select records in the data source.
    sda.SelectCommand = myCommand;

    // Instantiate an instance of the DataSet class which represents
    // an in-memory cache of data.
    ds = new DataSet();
    // When the SqlDataAdapter fills a DataSet, it will create the necessary
    // tables and columns for the returned data if they do not already exist.
    sda.Fill(ds);

    // Instantiate an instance of the DataTable class which represents
    // one table of in-memory data. Additional Info: To add tables to the
    // collection, use Add method of the DataTableCollection. To remove
    // tables, use the Remove method.
    dt = new DataTable();
    // Get the first array index of the collection of tables contained in the DataSet
    dt = ds.Tables[0];

    // If a record exists, Do the select
    if(dt.Rows[0][0].ToString() != "")
    {
        // Create the SQL statement
        // The @prodID represents a parameter that serves as a placeholder thats value
        // can be passed into the SQL statement later.
        Sql        = "SELECT * FROM Products_Lab5 WHERE ProductID = @prodID";
        // Create a new SQL command using the SQL command and connection object
        myCommand = new SqlCommand(Sql, oConn);

        // Parameters gets the SqlParameterCollection.
        // Add a new parameter matching the parameter(s) used in the above SQL statement
        myCommand.Parameters.Add(new SqlParameter("@prodID", System.Data.SqlDbType.Int, 4));
        // Assign a value to the @prodID placeholder in the above SQL statement
        myCommand.Parameters["@prodID"].Value = dt.Rows[0][0].ToString();

        // set the data source
        results.DataSource = myCommand.ExecuteReader();

        // bind the data source to the DataGrid
        results.DataBind();
    }
    // Close the connection to the database
    oConn.Close();
}

/// <summary>
/// function Insert_Click()
/// When the Insert Button is clicked, a new record will be inserted
/// into the database. The Primary Key is set to IDENTITY, so it will
/// auto-increment.
/// </summary>
/// <param name="Source"></param>
/// <param name="E"></param>
protected void Insert_Click(Object Source, EventArgs E)
{
    // Create the SQL statement
    // The @xxxx represents parameters that serve as a placeholders thats value
    // can be passed into the SQL statement later.
    Sql  = "INSERT INTO Products_Lab5 (title, authors, copyrightDate, edition, ";
    Sql += "isbn, coverart, description, price) VALUES(@title, @authors, ";
    Sql += "@copyrightDate, @edition, @isbn, @coverart, @description, @price)";
    // Create a new connection object using the connection string above.
    // oConn represents an open connection to a SQL Server database.
    oConn     = new SqlConnection(ConnStr);
    // Create a new SQL command using the SQL command and connection object.
    // myCommand represents a SQL statement or stored procedure to execute
    // against a SQL Server database.
    myCommand = new SqlCommand(Sql, oConn);

    // Parameters gets the SqlParameterCollection.
    // Add a new parameter matching the parameter(s) used in the above SQL statement
    myCommand.Parameters.Add(new SqlParameter("@title", System.Data.SqlDbType.VarChar, 100));
    myCommand.Parameters.Add(new SqlParameter("@authors", System.Data.SqlDbType.VarChar, 100));
    myCommand.Parameters.Add(new SqlParameter("@copyrightDate",System.Data.SqlDbType.VarChar, 6));
    myCommand.Parameters.Add(new SqlParameter("@edition", System.Data.SqlDbType.VarChar, 6));
    myCommand.Parameters.Add(new SqlParameter("@isbn", System.Data.SqlDbType.VarChar, 25));
    myCommand.Parameters.Add(new SqlParameter("@coverart", System.Data.SqlDbType.VarChar, 100));
    myCommand.Parameters.Add(new SqlParameter("@description", System.Data.SqlDbType.VarChar, 100));
    myCommand.Parameters.Add(new SqlParameter("@price", System.Data.SqlDbType.VarChar, 100));
    // Assign a value to the placeholders in the above SQL statement
    myCommand.Parameters["@title"].Value         = "Microsoft Visual";
    myCommand.Parameters["@authors"].Value       = "Jon Jagger";
    myCommand.Parameters["@copyrightDate"].Value = "2003";
    myCommand.Parameters["@edition"].Value       = "2003";
    myCommand.Parameters["@isbn"].Value          = "0735619093";
    myCommand.Parameters["@coverart"].Value      = "Microsoft";
    myCommand.Parameters["@description"].Value   = "Teach yourself";
    myCommand.Parameters["@price"].Value         = "26.39";
    // Open the connection to the database
    oConn.Open();
    // Execute the SQL statement against the connection. ExecuteNonQuery will
    // return the number of rows affected, but does not return a recordset.
    myCommand.ExecuteNonQuery();
    // Close the connection to the database
    oConn.Close();

    // Call the Select_Click() function to redisplay the data in the browser.
    Select_Click(Source, E);
}

/// <summary>
/// function Update_Click()
/// When the Update Button is clicked, the record with the maximum
/// ProductID is updated with a different Title.
/// </summary>
/// <param name="Source"></param>
/// <param name="E"></param>
protected void Update_Click(Object Source, EventArgs E)
{
    // Get the max id
    // Create the SQL statement
    Sql       = "SELECT Max(ProductID) AS MaxID FROM Products_Lab5";
    // Create a new connection object using the connection string above.
    // oConn represents an open connection to a SQL Server database.
    oConn     = new SqlConnection(ConnStr);
    // Create a new SQL command using the SQL command and connection object.
    // myCommand represents a SQL statement or stored procedure to execute
    // against a SQL Server database.
    myCommand = new SqlCommand(Sql, oConn);

    // Open the connection to the database
    oConn.Open();

    // Instantiate an instance of the SqlDataAdapter class
    // The SqlDataAdapter, serves as a bridge between a DataSet and SQL Server
    // for retrieving and saving data. The SqlDataAdapter provides this bridge
    // by mapping Fill, which changes the data in the DataSet to match the data
    // in the data source, and Update, which changes the data in the data source
    // to match the data in the DataSet, using the appropriate Transact-SQL
    // statements against the data source.
    sda = new SqlDataAdapter();
    // Set the value of the SDA select command equal to the command object.
    // SelectCommand gets or sets a SQL statement used to select records in the data source.
    sda.SelectCommand = myCommand;

    // Instantiate an instance of the DataSet class which represents
    // an in-memory cache of data.
    ds = new DataSet();
    // When the SqlDataAdapter fills a DataSet, it will create the necessary
    // tables and columns for the returned data if they do not already exist.
    sda.Fill(ds);

    // Instantiate an instance of the DataTable class which represents
    // one table of in-memory data. Additional Info: To add tables to the
    // collection, use Add method of the DataTableCollection. To remove
    // tables, use the Remove method.
    dt = new DataTable();
    // Get the first array index of the collection of tables contained in the DataSet
    dt = ds.Tables[0];

    // If a record exists, Do the update
    if(dt.Rows[0][0].ToString() != "")
    {
        // Create the SQL statement
        // The @prodID represents a parameter that serves as a placeholder thats value
        // can be passed into the SQL statement later.
        Sql          = "UPDATE Products_Lab5 SET Title=@title WHERE ProductID=@prodID";
        // Create a new SQL command using the SQL command and connection object
        myCommand    = new SqlCommand(Sql, oConn);

        // Parameters gets the SqlParameterCollection.
        // Add a new parameter matching the parameter(s) used in the above SQL statement
        myCommand.Parameters.Add(new SqlParameter("@title", System.Data.SqlDbType.VarChar, 100));
        myCommand.Parameters.Add(new SqlParameter("@prodID", System.Data.SqlDbType.Int, 4));
        // Assign a values to the placeholders in the above SQL statement
        myCommand.Parameters["@title"].Value  = "New Title Value";
        myCommand.Parameters["@prodID"].Value = dt.Rows[0][0].ToString();

        // Execute the SQL statement against the connection. ExecuteNonQuery will
        // return the number of rows affected, but does not return a recordset.
        myCommand.ExecuteNonQuery();
    }
    // Close the connection to the database
    oConn.Close();

    // Call the Select_Click() function to redisplay the data in the browser.
    Select_Click(Source, E);
}

/// <summary>
/// function Delete_Click()
/// When the Delete Button is clicked, the record with the maximum
/// ProductID is deleted from the database.
/// </summary>
/// <param name="Source"></param>
/// <param name="E"></param>
protected void Delete_Click(Object Source, EventArgs E)
{
    // Get the max id
    // Create the SQL statement
    Sql       = "SELECT Max(ProductID) AS MaxID FROM Products_Lab5";
    // Create a new connection object using the connection string above.
    // oConn represents an open connection to a SQL Server database.
    oConn     = new SqlConnection(ConnStr);
    // Create a new SQL command using the SQL command and connection object.
    // myCommand represents a SQL statement or stored procedure to execute
    // against a SQL Server database.
    myCommand = new SqlCommand(Sql, oConn);

    // Open the connection to the database
    oConn.Open();

    // Instantiate an instance of the SqlDataAdapter class
    // The SqlDataAdapter, serves as a bridge between a DataSet and SQL Server
    // for retrieving and saving data. The SqlDataAdapter provides this bridge
    // by mapping Fill, which changes the data in the DataSet to match the data
    // in the data source, and Update, which changes the data in the data source
    // to match the data in the DataSet, using the appropriate Transact-SQL
    // statements against the data source.
    sda = new SqlDataAdapter();
    // Set the value of the SDA select command equal to the command object.
    // SelectCommand gets or sets a SQL statement used to select records in the data source.
    sda.SelectCommand = myCommand;

    // Instantiate an instance of the DataSet class which represents
    // an in-memory cache of data.
    ds = new DataSet();
    // When the SqlDataAdapter fills a DataSet, it will create the necessary
    // tables and columns for the returned data if they do not already exist.
    sda.Fill(ds);
```

```
        // Instantiate an instance of the DataTable class which represents
        // one table of in-memory data. Additional Info: To add tables to the
        // collection, use Add method of the DataTableCollection. To remove
        // tables, use the Remove method.
        dt = new DataTable();
        // Get the first array index of the collection of tables contained in the DataSet
        dt = ds.Tables[0];

        // If there is a record to delete, Do the delete
        if(dt.Rows[0][0].ToString() != "")
        {
            // Create the SQL statement
            // The @prodID represents a parameter that serves as a placeholder thats value
            // can be passed into the SQL statement later.
            Sql          = "DELETE FROM Products_Lab5 WHERE ProductID=@prodID";
            // Create a new SQL command using the SQL command and connection object
            myCommand    = new SqlCommand(Sql, oConn);

            // Parameters gets the SqlParameterCollection.
            // Add a new parameter matching the parameter(s) used in the above SQL statement
            myCommand.Parameters.Add(new SqlParameter("@prodID", System.Data.SqlDbType.Int, 4));
            // Assign a values to the placeholders in the above SQL statement
            myCommand.Parameters["@prodID"].Value = dt.Rows[0][0].ToString();

            // Execute the SQL statement against the connection. ExecuteNonQuery will
            // return the number of rows affected, but does not return a recordset.
            myCommand.ExecuteNonQuery();
        }
        // Close the connection to the database
        oConn.Close();

        // Call the Select_Click() function to redisplay the data in the browser.
        Select_Click(Source, E);
    }

    /// <summary>
    /// function DeleteAll_Click()
    /// When the Delete All Button is clicked, all of the records will be
    /// deleted from the database.
    /// </summary>
    /// <param name="Source"></param>
    /// <param name="E"></param>
    protected void DeleteAll_Click(Object Source, EventArgs E)
    {
        // Create the SQL statement
        Sql       = "DELETE FROM Products_Lab5";
        // Create a new connection object using the connection string above.
        // oConn represents an open connection to a SQL Server database.
        oConn     = new SqlConnection(ConnStr);
        // Create a new SQL command using the SQL command and connection object
        myCommand = new SqlCommand(Sql, oConn);

        // Open the connection to the database
        oConn.Open();
        // Execute the SQL statement against the connection. ExecuteNonQuery will
        // return the number of rows affected, but does not return a recordset.
        myCommand.ExecuteNonQuery();
        // Close the connection to the database
        oConn.Close();

        // Call the Select_Click() function to redisplay the data in the browser.
        Select_Click(Source, E);
    }

    /// <summary>
```

```
        /// function Truncate_Click()
        /// When the Truncate Button is clicked, all of the records will be
        /// deleted from the database and the table will be truncated. The
        /// reason for this example is to show how TRUNCATE resets the
        /// IDENTITY counter in SQL Server.
        /// </summary>
        /// <param name="Source"></param>
        /// <param name="E"></param>
        protected void Truncate_Click(Object Source, EventArgs E)
        {
            // Create the SQL statement
            Sql       = "TRUNCATE TABLE Products_Lab5";
            // Create a new connection object using the connection string above.
            // oConn represents an open connection to a SQL Server database.
            oConn     = new SqlConnection(ConnStr);
            // Create a new SQL command using the SQL command and connection object
            myCommand = new SqlCommand(Sql, oConn);

            // Open the connection to the database
            oConn.Open();
            // Execute the SQL statement against the connection. ExecuteNonQuery will
            // return the number of rows affected, but does not return a recordset.
            myCommand.ExecuteNonQuery();
            // Close the connection to the database
            oConn.Close();

            // Call the Select_Click() function to redisplay the data in the browser.
            Select_Click(Source, E);
        }

        private void Page_Load(object sender, System.EventArgs e)
        {
            // Put user code to initialize the page here
        }

        #region Web Form Designer generated code
        override protected void OnInit(EventArgs e)
        {
            //
            // CODEGEN: This call is required by the ASP.NET Web Form Designer.
            //
            InitializeComponent();
            base.OnInit(e);
        }

        /// <summary>
        /// Required method for Designer support - do not modify
        /// the contents of this method with the code editor.
        /// </summary>
        private void InitializeComponent()
        {
            this.Load += new System.EventHandler(this.Page_Load);
        }
        #endregion
    }
}
```