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Application Development

With



And



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This tutorial has been developed exclusively for personal use by Syed Nazrul Hassan B.Sc Physics (Hons)
on 13
th

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This tutorial comprizes of topics like INSERTING,RETRIEVING,DELETING,UPDATING,DATA BINDING
TO
CONTROLS,TRANSACTIONS in MySQL With ADO.NET using Visual C# 2005 a component language of
Visual Studio
2005.

This tutorial has been checked for errors but the author does not take any responsibility of loss of data or
something of kind

which may occur while implementing of following codes.However any suggestion for improving,modifying,the
source code

will be thankfully acknowleged,appreciated and accepted

The software version of front end and backend used are described as below

1-Visual C# 8.0 a component language of Visual Studio 2005 also called as Visul C# 2005

2-MySQL 5.1.41 Community database server

3-MySQL Connector.NET 6.1.3

4-MySQL GUI Tools 5.0 r 17

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Download section

which is spread across about 56 locations in 6 continents

Enjoy and have Happy Programming

FORM 1

using System;

using System.Collections.Generic;

using System.ComponentModel;

using System.Data;

using System.Drawing;

using System.Text;

using System.Windows.Forms;

using MySql.Data;

using MySql.Data.MySqlClient;

using CrystalDecisions.CrystalReports.Engine;

namespace C_Sharp_ADO.NET_with_MySQL

{

public partial class Form1 : Form

{

MySqlDataAdapter da;

DataSet ds;

private static string connStr = "server=localhost;user=root;database=test;port=3306;password=root;";

MySqlConnection conn = new MySqlConnection(connStr);

public Form1()

{

InitializeComponent();

}

/*ADDING A RECORD TO DATABSE*/

private void button1_Click(object sender, EventArgs e)

{

```

        if (textBox3.Text == "")
            { MessageBox.Show("Enter Name", "C# ADO.NET MySQL",
MessageBoxButtons.OK,
MessageBoxIcon.Information); }
        else if (textBox4.Text == "")
            { MessageBox.Show("Enter Age", "C# ADO.NET MySQL", MessageBoxButtons.OK,
MessageBoxIcon.Information); }
        else if (comboBox1.Text == "")
            { MessageBox.Show("Select Qualification", "C# ADO.NET MySQL", MessageBoxButtons.OK,
MessageBoxIcon.Information); }
        else
        {
            MySqlConnection conn = new MySqlConnection();
            MySqlCommand cmd = new MySqlCommand();
            string constr;
            constr = "server=127.0.0.1;pwd=root;uid=root;database=test;";
            try
            {
                conn = new MySqlConnection(constr);
                conn.Open();
                cmd.Connection = conn;
                cmd.CommandText = "INSERT INTO STUD(NAME,AGE,QUALIFICATION) VALUES('" +
textBox3.Text +
"', " + textBox4.Text + ", '" + comboBox1.Text + "')";
                cmd.ExecuteNonQuery();
                conn.Close();
                MessageBox.Show("DATA INSERTED", "C# ADO.NET MySQL", MessageBoxButtons.OK,
MessageBoxIcon.Information);
                textBox1.Clear(); textBox2.Clear(); textBox3.Clear();
                textBox4.Clear(); comboBox1.ResetText();
            }
            catch (MySql.Data.MySqlClient.MySqlException ex)
            {
                MessageBox.Show("Error " + ex.Number + " has occurred: " + ex.Message,
                "Error", MessageBoxButtons.OK, MessageBoxIcon.Error);
            }
        }
    }
}
/*ADDING ITEMS TO COMBO BOX WHEN THE FORM LOADS AT RUNTIME*/
private void Form1_Load(object sender, EventArgs e)
{
    comboBox1.Items.Add("Under Graduate");
    comboBox1.Items.Add("Graduate");
    comboBox1.Items.Add("Post Graduate");
    comboBox1.Items.Add("Doctrate");

}
/*ADDING ITEMS(ENTIRE COLOUMN FROM DATABASE) TO COMBO BOX USING DATA READER
*/
private void Form1_Load(object sender, EventArgs e)
{
    MySqlConnection conn1 = new MySqlConnection();
    MySqlCommand cmd1 = new MySqlCommand();

```

```

string constr1 = "server=127.0.0.1;uid=root;pwd=root;database=test;";
conn1 = new MySqlConnection(constr1); try
{
    conn1.Open();
    cmd1.Connection = conn1;          cmd1.CommandText = "SELECT * FROM STUD ";
    MySqlDataReader dr1 = cmd1.ExecuteReader();
    while (dr1.Read())
    {

        comboBox1.Items.Add(dr1.GetString(1));
    }
    conn1.Close();

}
catch (MySql.Data.MySqlClient.MySqlException ex)
{
    MessageBox.Show("Error " + ex.Number + " has occurred: " + ex.Message,
        "Error", MessageBoxButtons.OK, MessageBoxIcon.Error);
}
}

/*VIEW DATABASE RECORD USING DATA READER*/
private void button2_Click(object sender, EventArgs e)
{
    textBox3.Clear(); textBox4.Clear(); comboBox1.ResetText();
    if (textBox2.Text == "")
    { MessageBox.Show("Enter Roll No", "C# ADO.NET MySQL", MessageBoxButtons.OK,
        MessageBoxIcon.Question); }
    else
    {
        MySqlConnection conn = new MySqlConnection();
        MySqlCommand cmd = new MySqlCommand();
        string constr = "server=127.0.0.1;uid=root;pwd=root;database=test;";
        conn = new MySqlConnection(constr);
        try
        {
            conn.Open();
            cmd.Connection = conn;
            cmd.CommandText = "SELECT * FROM STUD WHERE ROLL=" + textBox2.Text + "";
            MySqlDataReader dr = cmd.ExecuteReader();
            while (dr.Read())
            {
                textBox3.Text = dr.GetValue(1).ToString();
                textBox4.Text = dr.GetValue(2).ToString();
                comboBox1.Text = dr.GetValue(3).ToString();
            }
            conn.Close();
            if (textBox3.Text == "" && textBox4.Text == "" && comboBox1.Text == "")
            {
                MessageBox.Show("SEARCH NOT FOUND", "C# ADO.NET MySQL",
                MessageBoxButtons.OK,
                MessageBoxIcon.Asterisk);
                textBox2.Clear();
            }
        }
    }
}

```

```

    }
    catch (MySql.Data.MySqlClient.MySQLException ex)
    {
        MessageBox.Show("Error " + ex.Number + " has occurred: " + ex.Message,
            "Error", MessageBoxButtons.OK, MessageBoxIcon.Error);
    }
} //END ELSE
}
/*VIEW DATABASE RECORD USING DATA ADAPTER AND DATA SET*/
private void button3_Click(object sender, EventArgs e)
{
    textBox3.Clear(); textBox4.Clear(); comboBox1.ResetText();
    if (textBox2.Text == "")
    {
        MessageBox.Show("Enter Roll No", "C# ADO.NET MySQL", MessageBoxButtons.OK,
            MessageBoxIcon.Question);
    }
    else
    {
        MySqlDataAdapter da;
        DataSet ds;
        string connStr = "server=localhost;user=root;database=test;port=3306;password=root;";
        MySqlConnection conn = new MySqlConnection(connStr);
        try
        {
            string sql = "SELECT * FROM STUD WHERE ROLL=" + textBox2.Text + "";
            da = new MySqlDataAdapter(sql, conn);
            MySqlCommandBuilder cb = new MySqlCommandBuilder(da);
            ds = new DataSet();
            da.Fill(ds, "STUD");

            textBox3.DataBindings.Clear();
            textBox4.DataBindings.Clear();

            textBox3.DataBindings.Add(new Binding("Text", ds, "STUD.NAME"));
            textBox4.DataBindings.Add(new Binding("Text", ds, "STUD.AGE"));

            comboBox1.DataSource=ds.Tables["STUD"];
            comboBox1.DisplayMember = "QUALIFICATION";
            comboBox1.ValueMember = "QUALIFICATION";
            if (textBox3.Text == "" && textBox4.Text == "" && comboBox1.Text == "")
            {
                MessageBox.Show("SEARCH NOT FOUND", "C# ADO.NET MySQL",
                    MessageBoxButtons.OK,
                    MessageBoxIcon.Asterisk);
                textBox2.Clear();
            }
        }
        catch (Exception ex)
        {
            MessageBox.Show(ex.ToString());
        }
    } //END ELSE
}

```

Note – In the following code the Dataset ,Data Adapter and Connection string has been written in the global

section to

enable Adding Deleting Modifying and Selecting of records in Dataset followed by writing the changes to original Data

Source or Data Base corresponding to changes made in Dat Set by using the Update method of Data Adapter. Previously the

Fill method of Data Adapter is used to fill the Data Set with Required Table Data to work upon

```
/*VIEW DATABASE RECORD IN DATA GRID VIEW*/
private void button6_Click(object sender, EventArgs e)
{
    try
    {
        string sql = "SELECT * FROM STUD ";
        da = new MySqlDataAdapter(sql, conn);
        MySqlCommandBuilder cb = new MySqlCommandBuilder(da);          ds = new DataSet();
        da.Fill(ds, "STUD");
        dataGridView1.DataSource = ds;
        dataGridView1.DataMember = "STUD";
    }
    catch (Exception ex)
    {
        MessageBox.Show(ex.ToString());
    }
}

/*UPDATING DATABASE RECORD*/
private void button4_Click(object sender, EventArgs e)
{
    if (textBox2.Text == "")
    {
        MessageBox.Show("Enter Roll No to Update", "C# ADO.NET MySQL", MessageBoxButtons.OK,
        MessageBoxIcon.Question);
    }
    else
    {
        MySqlConnection conn = new MySqlConnection();
        MySqlCommand cmd = new MySqlCommand();
        string constr;
        constr = "server=127.0.0.1;uid=root;pwd=root;database=test;";
        try
        {
            conn = new MySqlConnection(constr);
            conn.Open();
            cmd.Connection = conn;
            cmd.CommandText = " UPDATE STUD SET NAME='" + textBox3.Text + "',AGE=" +
            textBox4.Text +
            ",QUALIFICATION='" + comboBox1.Text + "'WHERE ROLL=" + textBox2.Text + "'";
            cmd.ExecuteNonQuery();
            conn.Close();
            MessageBox.Show("DATABASE UPDATED", "C# ADO.NET MySQL", MessageBoxButtons.OK,
            MessageBoxIcon.Exclamation);
            textBox2.Clear(); textBox3.Clear();
            textBox4.Clear(); comboBox1.ResetText();
        }
        catch (MySql.Data.MySqlClient.MySqlException ex)
        {
        }
```

```

        MessageBox.Show("Error " + ex.Number + " has occurred: " + ex.Message,
            "Error", MessageBoxButtons.OK, MessageBoxIcon.Error);
    }
} //END ELSE
}
/*DELETE DATABASE RECORD*/
private void button5_Click(object sender, EventArgs e)
{
    if (textBox2.Text == "")
    { MessageBox.Show("Enter Roll No to Delete", "C# ADO.NET MySQL", MessageBoxButtons.OK,
        MessageBoxIcon.Question); }
    else
    {
        MySqlConnection conn = new MySqlConnection();
        MySqlCommand cmd = new MySqlCommand();
        string constr;
        constr = "server=127.0.0.1;uid=root;pwd=root;database=test;";          try
        {
            conn = new MySqlConnection(constr);
            conn.Open();
            cmd.Connection = conn;
            cmd.CommandText = "DELETE FROM STUD WHERE ROLL=" + textBox2.Text + "";
            cmd.ExecuteNonQuery();
            conn.Close();
            MessageBox.Show("RECORD DELETED", "C# ADO.NET MySQL", MessageBoxButtons.OK,
        MessageBoxIcon.Exclamation);
            textBox2.Clear(); textBox3.Clear();
            textBox4.Clear(); comboBox1.ResetText();
        }
        catch (MySql.Data.MySqlClient.MySqlException ex)
        {
            MessageBox.Show("Error " + ex.Number + " has occurred: " + ex.Message,
                "Error", MessageBoxButtons.OK, MessageBoxIcon.Error);
        }
    }
} //END ELSE
}
/*CLEAR THE TEXT BOX AND COMBO BOX*/
private void button9_Click(object sender, EventArgs e)
{
    textBox1.Clear(); textBox2.Clear(); textBox3.Clear(); textBox4.Clear();
    comboBox1.ResetText();
    textBox5.Clear(); textBox6.Clear();
    ds.Tables["STUD"].Clear(); /*CLEAR THE DATA SET TO CLEAR GRID VIEW SELECTION*/
}

```

In the above code we could have written simply ds.Tables.Clear(); but it will clear every table residing within dataset so to

avoid it we provide the specific name of the table

/*VIEW DATABASE RECORD USING DATA ADAPTER AND DATA SET IN MULTILINE TEXT BOX*/

```

private void button7_Click(object sender, EventArgs e)
{
    textBox1.Clear();
    MySqlDataAdapter da;

```

```

DataSet ds;
string connStr = "server=localhost;user=root;database=test;port=3306;password=root;";
MySqlConnection conn = new MySqlConnection(connStr);
try
{
    string sql = "SELECT * FROM STUD ";
    da = new MySqlDataAdapter(sql, conn);
    MySqlCommandBuilder cb = new MySqlCommandBuilder(da);
    ds = new DataSet();
    da.Fill(ds, "STUD");
    foreach (DataRow CurrentRow in ds.Tables["STUD"].Rows)
    {
        foreach (DataColumn CurrentColumn in ds.Tables["STUD"].Columns)
        {
            textBox1.Text += CurrentRow[CurrentColumn].ToString()
                + '\t' + '\n';
        }
        textBox1.Text += System.Environment.NewLine;
    }
}
catch (Exception ex)
{
    MessageBox.Show(ex.ToString());
}

}

/*VIEW DATABASE INFORMATION DIRECTLY IN TEXT BOX AFTER RETRIEVING FROM
DATABASE*/
private void button8_Click(object sender, EventArgs e)
{
    MySqlConnection conn = new MySqlConnection();
    MySqlCommand cmd = new MySqlCommand();
    string constr = "server=127.0.0.1;uid=root;pwd=root;database=test;";
    conn = new MySqlConnection(constr);
    try
    {
        conn.Open();
        cmd.Connection = conn;
        cmd.CommandText = "SELECT VERSION() ";
        object a = cmd.ExecuteScalar();
        string c = " MySQL ";
        textBox1.Text = c + a.ToString();
    }
    catch (MySql.Data.MySqlClient.MySqlException ex)
    {
        MessageBox.Show("Error " + ex.Number + " has occurred: " + ex.Message,
            "Error", MessageBoxButtons.OK, MessageBoxIcon.Error);
    }
}

}

/*UPDATING DATA SET USING DATA ADAPTER AND WRITING CHANGES BACK TO
DATABASE*/

```

For this following code to work you must declare the dataset in the global section else it would give an error


```

private void button10_Click(object sender, EventArgs e)
{
    da.Update(ds,"STUD");
}
/*NAVIGATING OVER ALL TABLES IN DATASET*/
private void button11_Click(object sender, EventArgs e)
{
    textBox1.Clear();
    MySqlDataAdapter da;
    DataSet ds;
    string connStr = "server=localhost;user=root;database=test;port=3306;password=root;";
    MySqlConnection conn = new MySqlConnection(connStr);
    try
    {
        string sql = "SELECT * FROM STUD ";
        da = new MySqlDataAdapter(sql, conn);
        MySqlCommandBuilder cb = new MySqlCommandBuilder(da);
        ds = new DataSet();
        da.Fill(ds, "STUD");
        foreach (DataTable CurrentTable in ds.Tables)
        {
            foreach (DataRow CurrentRow in CurrentTable.Rows)
            {
                foreach (DataColumn CurrentColumn in CurrentTable.Columns)
                {
                    textBox1.Text += CurrentRow[CurrentColumn].ToString()
                        + '\t' + '\n';
                }
                textBox1.Text += System.Environment.NewLine;
            }
        }
    }
    catch (Exception ex)
    {
        MessageBox.Show(ex.ToString());
    }
}
/*INSERTING RECORD IN MORE THAN ONE TABLE CALLED AS TRANSACTION*/
private void button12_Click(object sender, EventArgs e)
{
    string myConnString = "Server=127.0.0.1;Uid=root;Pwd=root;Database=test;";
    MySqlConnection myConnection = new MySqlConnection(myConnString);
    myConnection.Open();
    MySqlCommand myCommand = myConnection.CreateCommand();
    MySqlTransaction myTrans;
    // Start a local transaction
    myTrans = myConnection.BeginTransaction();
    // Must assign both transaction object and connection
    // to Command object for a pending local transaction
    myCommand.Connection = myConnection;
    myCommand.Transaction = myTrans;
    try

```

```

        {
            myCommand.CommandText = "INSERT INTO STUD(NAME,AGE,QUALIFICATION)
VALUES(" +
textBox3.Text + "," + textBox4.Text + "," + comboBox1.Text + ")";
            myCommand.ExecuteNonQuery();
            myCommand.CommandText = "Insert into STUDETAILS VALUES (" + textBox5.Text + "," +
textBox6.Text + ")";
            myCommand.ExecuteNonQuery();
            myTrans.Commit();
            MessageBox.Show("Both records are written to database.");
        }
        catch (Exception ex)
        {
            try
            {
                myTrans.Rollback();
            }
            catch (MySqlException exp)
            {
                if (myTrans.Connection != null)
                {
                    MessageBox.Show("An exception of type " + exp.GetType() +
                        " was encountered while attempting to roll back the transaction.");
                }
            }
            MessageBox.Show("An exception of type " + ex.GetType() +
                " was encountered while inserting the data.");
            MessageBox.Show("Neither record was written to database.");
        }
        finally
        {
            myConnection.Close();
            textBox1.Clear(); textBox2.Clear();
        }
    }
}

```

```

}
}
FORM 2
using System;
using System.Collections.Generic;
using System.ComponentModel;
using System.Data;
using System.Drawing;
using System.Text;
using System.Windows.Forms;
using MySql.Data;
using MySql.Data.MySqlClient;
using CrystalDecisions.CrystalReports.Engine;
namespace C_Sharp_ADO.NET_with_MySQL
{
    public partial class Form2 : Form
    {

```

```

DataSet ds; //Global Dataset
public Form2()
{
    InitializeComponent();
}

//LOAD DATA FROM DATABASE IN DATA SET THROUGH DATA ADAPTER
private void Form2_Load(object sender, EventArgs e)
{
    MySqlDataAdapter da;
    //DataSet ds; This adapter is declared in global section
    string connStr = "server=localhost;user=root;database=test;port=3306;password=root;";
    MySqlConnection conn = new MySqlConnection(connStr);
    try
    {
        string sql = "SELECT * FROM STUD";
        da = new MySqlDataAdapter(sql, conn);
        MySqlCommandBuilder cb = new MySqlCommandBuilder(da);
        ds = new DataSet();
        da.Fill(ds, "STUD");
        textBox2.DataBindings.Clear();
        textBox3.DataBindings.Clear();
        textBox4.DataBindings.Clear();
        comboBox1.DataBindings.Clear();
        textBox2.DataBindings.Add(new Binding("Text", ds, "STUD.ROLL"));
        textBox3.DataBindings.Add(new Binding("Text", ds, "STUD.NAME"));
        textBox4.DataBindings.Add(new Binding("Text", ds, "STUD.AGE"));
        comboBox1.DataBindings.Add(new Binding("Text", ds, "STUD.QUALIFICATION"));
        listBox1.DataSource = ds;
        listBox1.DisplayMember = "STUD.NAME";
        listBox1.ValueMember = "STUD.NAME";
    }
    catch (Exception ex)
    {
        MessageBox.Show(ex.ToString());
    }
    textBox5.Text = Convert.ToString
        (this.BindingContext[ds, "STUD"].Position + 1)
        + " Of " + Convert.ToString(this.BindingContext[ds, "STUD"].Count);
}

//MOVE TO LAST RECORD IN DATA SET//
private void button16_Click(object sender, EventArgs e)
{
    this.BindingContext[ds, "STUD"].Position =
        (this.BindingContext[ds, "STUD"].Count - 1);
    textBox5.Text = Convert.ToString
        (this.BindingContext[ds, "STUD"].Position + 1)
        + " Of " + Convert.ToString(this.BindingContext[ds, "STUD"].Count);
}

//MOVE TO FIRST RECORD IN DATASET
private void button13_Click(object sender, EventArgs e)
{

```

```

        this.BindingContext[ds, "STUD"].Position = 0;
        textBox5.Text = Convert.ToString
            (this.BindingContext[ds, "STUD"].Position + 1)
            + " Of " + Convert.ToString(this.BindingContext[ds, "STUD"].Count);
    }
    //MOVE TO PREVIOUS RECORD IN DATASET
    private void button14_Click(object sender, EventArgs e)
    {
        this.BindingContext[ds, "STUD"].Position =
            (this.BindingContext[ds, "STUD"].Position - 1);
        textBox5.Text = Convert.ToString
            (this.BindingContext[ds, "STUD"].Position + 1)
            + " Of " + Convert.ToString(this.BindingContext[ds, "STUD"].Count);
    }
    //MOVE TO NEXT RECORD IN DATASET
    private void button15_Click(object sender, EventArgs e)
    {
        this.BindingContext[ds, "STUD"].Position =
            (this.BindingContext[ds, "STUD"].Position + 1);
        textBox5.Text = Convert.ToString
            (this.BindingContext[ds, "STUD"].Position + 1)
            + " Of " + Convert.ToString(this.BindingContext[ds, "STUD"].Count);
    }
}
}
}

```

Note – The crystal reports have extension of .rpt these files are created separately by connecting to database using RDO.NET by choosing a previously created DSN of the database for which report has to be created the advantage of this approach is that it allows you to browse database tables columns and drop them to your report for this you have to install the connector ODBC 5.1 version or higher and use the wizard to design the report and after you have designed the report just simply drop the report files in the Application Startup folder so that when Application runs it loads the report along with it the Application Startup folder in my development machine is "C:\Users\Nazrul\Documents\Visual Studio 2005\Projects\C Sharp ADO.NET with MySQL\C Sharp ADO.NET with MySQL\bin\Debug\" Here the Debug Folder Should contain the report files and while making the Installer these files have to be added to the primary output folder separately to act as a Non Embedded Report to be distributed separately and the DSN of same name has to be created on the target machine where the Installer would be installed as the report files use the DSN in my tutorial to communicate to database. The application startup folders are referenced by @".\CrystalMemberReport1.rpt" The "." Refers to Application Startup Folder containing the report file named as CrystalMemberReport1.rpt

/*FILTERING CRYSTAL REPORT USING DATASET QUERY AND WRITING XML FILE OR XML DATASET*/

```

private void Form1_Load(object sender, EventArgs e)
{
    ReportDocument myReport = new ReportDocument();
    DataSet myData = new DataSet();
    MySql.Data.MySqlClient.MySqlConnection conn;
    MySql.Data.MySqlClient.MySqlCommand cmd;
    MySql.Data.MySqlClient.MySqlDataAdapter myAdapter;
    conn = new MySql.Data.MySqlClient.MySqlConnection();
    cmd = new MySql.Data.MySqlClient.MySqlCommand();
    myAdapter = new MySql.Data.MySqlClient.MySqlDataAdapter();
    conn.ConnectionString = "server=127.0.0.1;uid=root;pwd=root;database=library;";
}

```

```

try
{
    cmd.CommandText = "SELECT * FROM MEMBER ORDER BY MEMBER_ID DESC";
    cmd.Connection = conn;
    myAdapter.SelectCommand = cmd;
    myAdapter.Fill(myData,"MEMBER");
    myReport.Load(@".\CrystalMemberReport1.rpt");
    myReport.SetDataSource(myData);
    crystalReportViewer1.ReportSource = myReport;
    myData.WriteXml(@".\MEMBER.xml", XmlWriteMode.WriteSchema);
    MessageBox.Show("XML FILE Written to
Disk", "", MessageBoxButtons.OK, MessageBoxIcon.Exclamation);
}
catch ( MySql.Data.MySqlClient.MySqlException ex)
{
    MessageBox.Show(ex.Message, "Report could not be created",
        MessageBoxButtons.OK, MessageBoxIcon.Error);
}
catch (Exception ex)
{
    MessageBox.Show(ex.Message, "Report could not be created",
        MessageBoxButtons.OK, MessageBoxIcon.Error);
}
}

/*FILTERING CRYSTAL REPORT USING SELECTION FORMULA AND CONTROLS*/
private void button5_Click(object sender, EventArgs e)
{
    //string selectFormula = "{member.member_id} = " + textBox1.Text + "";
    //string selectFormula = "MID({member.Name}, 1, 1) = " + textBox1.Text + "";
    //string selectFormula = "{member.EMPNO} > " + textBox1.Text + "";
    string selectFormula = "{member.member_id} > " + textBox1.Text + " AND MID({member.Name}, 1,
1) = " +
textBox2.Text + "";
    crystalReportViewer1.SelectionFormula = selectFormula;
    crystalReportViewer1.ReportSource = (@".\CrystalMemberReport1.rpt");
}

/*GENERATING AND FILTERING CRYSTAL REPORT FROM XML FILE OR XML DATASET USING
SELECTION FORMULA AND CONTROLS*/
private void Form1_Load(object sender, EventArgs e)
{
    ReportDocument rd = new ReportDocument();//Instantiate a new report document
    rd.Load(@".\CrystalMemberReport1.rpt");//load CrystalMemberReport1
    /* Create a data set and populate it with (.MEMBER.xml) contents*/
    DataSet ds = new DataSet();
    ds.ReadXml(@".\MEMBER.xml");
    rd.SetDataSource(ds.Tables["Table"]);// Set the data source of the report document
    /*Create a query to fit the user filtering requirement*/
    string Query = "{MEMBER.MEMBER_ID} < 3";
    // string Query = "{MEMBER.NAME} = 'AMAR'";
    crystalReportViewer1.SelectionFormula = Query;
    crystalReportViewer1.ReportSource = rd;
}

```

```
}
```

CONNECTING TO REMOTE MYSQL DATABASE USING ADO.NET

While connecting to remote MySQL database server only the things to be changed in the code are the host name, user name, password and the database name and the remote server must allow incoming connections to it from distributed clients. The host name is generally the IP Address of the Database server machine. Following code illustrates it

```
private void button3_Click(object sender, EventArgs e)
{
    MySqlConnection conn = new MySqlConnection();
    string constr;
    constr = "server=10.152.0.38;uid=root;pwd=angel;database=Library;";
    try
    {
        conn = new MySqlConnection(constr);
        conn.Open();
        /*HERE YOU CAN WRITE THE CODE TO SELECT INSERT          * UPDATE AND DELETE
THE RECORDS IN DATABASE */
        MessageBox.Show("Connection Established");
        conn.Close();
    }
    catch (MySql.Data.MySqlClient.MySqlException ex)
    {
        MessageBox.Show("Error " + ex.Number + " has occurred: " + ex.Message,
            "Error", MessageBoxButtons.OK, MessageBoxIcon.Error);
    }
}

/*DELETE DATABASE RECORD ONLY IF RECORD EXISTS AND DISPLAY MESSAGE OF RECORD
DELETED
AND IF NO SPECIFIC RECORD EXISTS THEN DO NO DISPLAY THE MESSAGE OF RECORD
DELETION
METHOD 1 USING DBNULL*/
private void button5_Click(object sender, EventArgs e)
{
    if (textBox2.Text == "")
    { MessageBox.Show("Enter Roll No to Delete", "C# ADO.NET MySQL", MessageBoxButtons.OK,
        MessageBoxIcon.Question); }
    else
    {
        MySqlConnection conn = new MySqlConnection();
        MySqlCommand cmd = new MySqlCommand();
        string constr = "server=127.0.0.1;uid=root;pwd=root;database=test;";
        conn = new MySqlConnection(constr);
        try
        {

            conn.Open();
            cmd.Connection = conn;
            cmd.CommandText = "SELECT * FROM STUD WHERE ROLL=" + textBox2.Text + "";
            MySqlDataReader dr = cmd.ExecuteReader();
            while (dr.Read())
            {

                if( !dr.IsDBNull(0) )textBox2.Text = dr.GetString(0);
```

```

        {
            MySqlConnection conn1 = new MySqlConnection();
            MySqlCommand cmd1 = new MySqlCommand();
            string constr1;
            constr1 = "server=127.0.0.1;uid=root;pwd=root;database=test;";
            try
            {
                conn1 = new MySqlConnection(constr1);
                conn1.Open();
                cmd1.Connection = conn1;
                cmd1.CommandText = "DELETE FROM STUD WHERE ROLL=" + textBox2.Text + "";
                cmd1.ExecuteNonQuery();
                conn1.Close();

                MessageBox.Show("RECORD DELETED", "C# ADO.NET MySQL",
                    MessageBoxButtons.OK,
                    MessageBoxIcon.Exclamation);
                textBox2.Clear(); textBox3.Clear();
                textBox4.Clear(); comboBox1.ResetText();

            }
            catch (MySql.Data.MySqlClient.MySqlException ex)
            {
                MessageBox.Show("Error " + ex.Number + " has occurred: " + ex.Message,
                    "Error", MessageBoxButtons.OK, MessageBoxIcon.Error);
            }

        }

    }

    dr.Close();

    conn.Close();

}
catch (MySql.Data.MySqlClient.MySqlException ex)
{
    MessageBox.Show("Error " + ex.Number + " has occurred: " + ex.Message,
        "Error", MessageBoxButtons.OK, MessageBoxIcon.Error);
}

} //END ELSE
}

/*DELETE DATABASE RECORD ONLY IF RECORD EXISTS AND DISPLAY MESSAGE OF RECORD
DELETED
AND IF NO SPECIFIC RECORD EXISTS THEN DO NO DISPLAY THE MESSAGE OF RECORD
DELETION
METHOD 2 USING IF ELSE*/
private void button5_Click(object sender, EventArgs e)
{
    if (textBox2.Text == "")
    {
        MessageBox.Show("Enter Roll No to Delete", "C# ADO.NET MySQL", MessageBoxButtons.OK,
            MessageBoxIcon.Question);
    }
}

```

```

else
{
    string constr = "server=127.0.0.1;uid=root;pwd=root;database=test;";

    string str;
    str = textBox2.Text;
    MySqlConnection mycon = new MySqlConnection(constr);
    mycon.Open();
    string selstr = "";
    selstr = "select * from stud where roll='" + str + "'";
    MySqlCommand mycmd = new MySqlCommand();
    mycmd.Connection = mycon;
    mycmd.CommandText = selstr;
    MySqlDataReader dr;
    dr = mycmd.ExecuteReader();
    string k;
    while (dr.Read())
    {
        k = dr.GetValue(0).ToString();
        if (str != k)
        {
            MessageBox.Show("Roll No Is NOT Preset");
        }
    }
    else
    {
        MySqlConnection conn1 = new MySqlConnection();
        MySqlCommand cmd1 = new MySqlCommand();
        string constr1;
        constr1 = "server=127.0.0.1;uid=root;pwd=root;database=test;";
        try
        {
            conn1 = new MySqlConnection(constr1);
            conn1.Open();
            cmd1.Connection = conn1;
            cmd1.CommandText = "DELETE FROM STUD WHERE ROLL='" + textBox2.Text + "'";
            cmd1.ExecuteNonQuery();
            conn1.Close();
            MessageBox.Show("RECORD DELETED", "C# ADO.NET MySQL", MessageBoxButtons.OK,
            MessageBoxIcon.Exclamation);
            textBox2.Clear(); textBox3.Clear();
            textBox4.Clear(); comboBox1.ResetText();
        }
        catch (MySql.Data.MySqlClient.MySqlException ex)
        {
            MessageBox.Show("Error " + ex.Number + " has occurred: " + ex.Message,
            "Error", MessageBoxButtons.OK, MessageBoxIcon.Error);
        }
    }
}
conn.Close();
}

```



```

    }
    /*FIRST CREATE A TABLE BY OPENING MySQL QUERY BROWSER AND EXECUTING FOLLOWING
    COMMAND*/
    CREATE TABLE BLOBTest
    (BLOBID int auto_increment primary key,BLOBData BLOB)
    /*USE FOLLOWING NAME SPACE TO HANDLE IMAGE INSERTION AND RETRIEVAL THOUGH
    PICTURE
    BOX CONTROL*/
    using System.IO;
    using System.Drawing.Imaging;
    using MySql.Data.MySqlClient;
    /*THIS CODE INSERTS AN JPEG(ONLY) IMAGE FOMAT INTO MySQL DATABASE ON BUTTON
    CLICK*/
    private void button1_Click(object sender, EventArgs e)
    {
        String strCn = "server=127.0.0.1;uid=root;pwd=root;database=test;";
        try
        {
            MySqlConnection cn = new MySqlConnection(strCn);
            MySqlCommand cmd = new MySqlCommand("INSERT INTO BLOBTest (BLOBData) VALUES
            (@BLOBData)", cn); //Save image from PictureBox into MemoryStream object.
            MemoryStream ms = new MemoryStream();
            pictureBox1.Image.Save(ms, ImageFormat.Jpeg);
            //Read from MemoryStream into Byte array.
            Byte[] bytBLOBData = new Byte[ms.Length];
            ms.Position = 0;
            ms.Read(bytBLOBData, 0, Convert.ToInt32(ms.Length));
            //Create parameter for insert statement that contains image.
            MySqlParameter prm = new MySqlParameter("@BLOBData", MySqlDbType.VarBinary,
            bytBLOBData.Length,
            ParameterDirection.Input, false,
            0, 0, null, DataRowVersion.Current, bytBLOBData);
            cmd.Parameters.Add(prm);
            cn.Open();
            cmd.ExecuteNonQuery();
            cn.Close();
            MessageBox.Show("Picture Inserted", "Book Catalogue", MessageBoxButtons.OK,
            MessageBoxIcon.Exclamation);
        }
        catch (Exception ex)
        {
            { MessageBox.Show(ex.Message); }
            pictureBox1.Image.Dispose();
            pictureBox1.Image = null;
        }
    }
    /*FOLLOWING CODE RETRIEVES THE INSERTED JPEG IMAGES IN MySQL DATABASE AND
    DISPLAY IN
    PICTURE BOX USING BLOBID(AN AUTO INCREMENT COLOUMN IN MySQL DATABASE) BLOBID
    IS GIVEN
    FROM TEXT BOX 1 AND IT STARTS FROM 1 FOR FIRST INSERTED IMAGE IT WOULD BE 1*/
    private void button2_Click(object sender, EventArgs e)
    {
        try
        {

```

```

String str = "server=127.0.0.1;uid=root;pwd=root;database=test;";
MySQLConnection conn = new MySqlConnection(str);
MySQLCommand cmd = new MySQLCommand("SELECT * FROM BLOBTest where BLOBID=" +
textBox1.Text + "'", conn);
DataSet ds = new DataSet();
MySQLDataAdapter da = new MySQLDataAdapter(cmd.CommandText, conn);
da.Fill(ds, "BLOBTest");
Byte[] byteBLOBData = new Byte[0];
byteBLOBData = (Byte[])(ds.Tables[0].Rows[0]["BLOBDATA"]);
MemoryStream stmBLOBData = new MemoryStream(byteBLOBData);
pictureBox1.Image = Image.FromStream(stmBLOBData);
}
catch (IndexOutOfRangeException ex)
{ MessageBox.Show("Index Out of Range", "Book
Catalogue", MessageBoxButtons.OK, MessageBoxIcon.Error); }
catch (Exception ex)
{ MessageBox.Show(ex.ToString()); }
textBox1.Clear();
} /*FOLLOWING CODE IS USED TO OPEN A FILE OPEN DIALOG WITH JPEG AND ASSOCIATED
FILE TYPES
FILTER TO SELECT THE JPEG IMAGE INTO PICTUREBOX*/
private void button3_Click(object sender, EventArgs e)
{
    OpenFileDialog dlg = new OpenFileDialog();
    dlg.Multiselect = true; dlg.Title = "Select File";
    dlg.Filter = "JPEG (*.jpg;*.jpeg;*.jpe;*.jfif)|*.jpg;*.jpeg;*.jpe;*.jfif|All Files|*.*";
    try
    {
        if (dlg.ShowDialog() == DialogResult.OK)
        {
            pictureBox1.Image = Image.FromFile(dlg.FileName);
        }
    }
    catch (Exception ex)
    { MessageBox.Show(ex.Message.ToString()); }
}

```

IN THE ABOVE EXAMPLE THE CODE DESCRIBED IS TESTED FOR MySQL 5.1.43 AND Visual Studio 2005

WITH Connector.NET 6.1.3 BUT IF YOU WANT TO USE THE SAME WITH MSAccess THEN JUST REPLACE

MySQLConnection	with	OleDbConnection
MySQLCommand	with	OleDbCommand
MySQLDataAdapter	with	OleDbDataAdapter
MySQLParameter	with	OleDbParameter
MySQLDbType	with	OleDbType

IN THE ENTIRE CODE AND SET THE EXACT LOCATION OF MSAccess2003 DATABASE BE SURE TO MAKE

THE COLOUMN THAT IS USED TO STORE IMAGES AS OLE OBJECT TYPE

```
string WorkingDirectory = Application.StartupPath + "\\\";
```

```

        string constr = @"Provider=Microsoft.Jet.OLEDB.4.0;Data Source=" + WorkingDirectory +
"icard.mdb;Persist Security Info=True";
        OleDbConnection con = new OleDbConnection();
        con.ConnectionString = constr;
        con.Open();
        OleDbCommand cmd = new OleDbCommand();

        string inst = "insert into
stud(rollbatchno,name,fname,dob,course,duration,address,issuedate,validupto,photo,contact) values(" +
textBox5.Text + "," + textBox1.Text + "," + textBox2.Text + "," + dateTimePicker1.Text + "," +
comboBox1.Text + "," + textBox4.Text + "," + textBox3.Text + "," + dateTimePicker2.Text + "," +
dateTimePicker3.Text + ",@BLOBData,"+textBox6.Text+")";
        cmd.CommandText = inst;
        cmd.Connection = con;
        MemoryStream ms = new MemoryStream();
        pictureBox1.Image.Save(ms, ImageFormat.Jpeg);
        //Read from MemoryStream into Byte array.
        Byte[] bytBLOBData = new Byte[ms.Length];
        ms.Position = 0;
        ms.Read(bytBLOBData, 0, Convert.ToInt32(ms.Length));
        //Create parameter for insert statement that contains image.
        OleDbParameter prm = new OleDbParameter("@BLOBData", OleDbType.VarBinary,
bytBLOBData.Length, ParameterDirection.Input, false, 0, 0, null, DataRowVersion.Current, bytBLOBData);
        cmd.Parameters.Add(prm);
        cmd.ExecuteNonQuery();
        MessageBox.Show("Data Entry OK", "I-CARD", MessageBoxButtons.OK,
MessageBoxIcon.Exclamation);
        con.Close();

```

```

private void textBox5_KeyPress(object sender, KeyPressEventArgs e)
{
    if (e.KeyChar == 13)
    {
        ds.Clear();

        textBox1.Clear(); textBox2.Clear(); textBox3.Clear(); textBox4.Clear(); textBox6.Clear();
        dateTimePicker1.ResetText(); dateTimePicker2.ResetText();
        dateTimePicker3.ResetText(); comboBox1.ResetText(); comboBox1.SelectedIndex = -1;
        pictureBox1.Image = null; label17.ResetText();

        if (textBox5.Text == "")
        { label17.Text = "Enter Roll No and Batch No Seperated by '/'"; }
        else
        {
            string WorkingDirectory = Application.StartupPath + "\\";
            string constr = @"Provider=Microsoft.Jet.OLEDB.4.0;Data Source=" + WorkingDirectory +
"icard.mdb;Persist Security Info=True";
            OleDbConnection con = new OleDbConnection(constr);
            DataSet ds = new DataSet();
            OleDbCommand cmd = new OleDbCommand("SELECT * FROM STUD where rollbatchno=" +

```

```

textBox5.Text + "", con);
    OleDbDataAdapter da = new OleDbDataAdapter(cmd.CommandText, con);
    da.Fill(ds, "STUD");
    foreach (DataRow dr in ds.Tables[0].Rows)
    {
        textBox1.Text = dr["name"].ToString();
        textBox2.Text = dr["fname"].ToString();
        dateTimePicker1.CustomFormat = dr["dob"].ToString();
        comboBox1.Text = dr["course"].ToString();
        textBox4.Text = dr["duration"].ToString();
        textBox3.Text = dr["address"].ToString();
        dateTimePicker2.CustomFormat = dr["issuedate"].ToString();
        dateTimePicker3.CustomFormat = dr["validupto"].ToString();
        textBox6.Text = dr["contact"].ToString();
        Byte[] byteBLOBData = new Byte[0];
        byteBLOBData = (Byte[])(ds.Tables[0].Rows[0]["photo"]);
        MemoryStream stmBLOBData = new MemoryStream(byteBLOBData);
        pictureBox1.Image = Image.FromStream(stmBLOBData);

    }

    if (textBox1.Text == "" && textBox2.Text == "" && textBox3.Text == "" && pictureBox1.Image
== null)
    {
        { MessageBox.Show(ex.Message.ToString()); }
        MessageBox.Show("Search Not Found", "I-CARD", MessageBoxButtons.OK,
MessageBoxIcon.Information); textBox5.Clear();
    }
    }//ELSE
    }//KEYCHAR
    }//FUNCTION

```