Report

In this Assessment Project I have design and Display UI Interface for the MoviesRentalSystem. Through this project the shopkeeper can Add customers Name and also keep the data for the rented Movie issued. Shopkeeper Also delete and add Movie to The Data List of the movies. Below is the Implementation of Design of UI with full code and Unit Test.

Code:-

using System;

using System.Collections.Generic;

using System.ComponentModel;

using System.Data;

using System.Drawing;

using System.Linq;

using System.Text;

using System.Threading.Tasks;

using System.Windows.Forms;

using System.Data.SqlClient;

namespace MoviesRentalSystems

{

public partial class Form1 : Form

{

public SqlConnection conn = null;

public bool Connection,Show\_Lists;

public Form1()

{

InitializeComponent();

string connect = "Server=localhost\\SQLEXPRESS;Database=master;Trusted\_Connection=True;";

try {

Connection = false;

conn = new SqlConnection(connect);

conn.Open();

Connection = true;

SqlCommand cmd;

Show\_Lists = false;

String Sql\_Movies = "Select MovieID,Title,Genre,Rental\_Cost,Year From Movies";

String Sql\_Rentals = "Select RMID, C.FirstName as FirstName, C.LastName as LastName, C.Address as Address,M.Title as Title, M.Rental\_Cost as Rental\_Cost, R.DateRented, R.DateReturned From RentedMovies R join Customer C on R.CustIDFK=C.CustID join Movies M on R.MovieIDFK=M.MovieID";

String Sql\_Customers = "Select CustID,FirstName,LastName, Address, Phone From Customer";

cmd = new SqlCommand(Sql\_Movies,conn);

SqlDataAdapter Adp\_Movies = new SqlDataAdapter(cmd);

DataTable Data\_Grid = new DataTable();

Adp\_Movies.Fill(Data\_Grid);

moviesGrid.DataSource = Data\_Grid;

cmd = new SqlCommand(Sql\_Rentals, conn);

SqlDataAdapter Adp\_Rentals = new SqlDataAdapter(cmd);

DataTable Data\_Grid1 = new DataTable();

Adp\_Rentals.Fill(Data\_Grid1);

RentalGrid.DataSource = Data\_Grid1;

cmd = new SqlCommand(Sql\_Customers, conn);

SqlDataAdapter adpCus = new SqlDataAdapter(cmd);

DataTable Data\_Grid2 = new DataTable();

adpCus.Fill(Data\_Grid2);

CustGrid.DataSource = Data\_Grid2;

// dataReader = cmd.ExecuteReader();

Show\_Lists = true;

}

catch(Exception e)

{

if (Connection == false)

conn = null;

Show\_Lists = false;

MessageBox.Show("Connection Error");

}

}

private void Form1\_Load(object sender, EventArgs e)

{

}

private void AddressCust\_TextChanged(object sender, EventArgs e)

{

}

private void Cust\_ID\_TextChanged(object sender, EventArgs e)

{

}

String First\_Name = "", Last\_Name = "",Title="";

String Issue\_Date = "", Return\_Date = "";

DateTime iss\_Date,rtn\_Date;

private void RentalGrid\_CellContentClick(object sender, DataGridViewCellEventArgs e)

{

String Mobile = "";

First\_Name = (string)RentalGrid[1, e.RowIndex].Value;

Last\_Name = (string)RentalGrid[2, e.RowIndex].Value;

Title = (string)RentalGrid[4, e.RowIndex].Value;

String Phone\_No = "Select Phone From Customer Where FirstName='"+First\_Name+"' and LastName='"+Last\_Name+"'";

SqlCommand cmd = new SqlCommand(Phone\_No, conn);

SqlDataReader dataReader= cmd.ExecuteReader();

if(dataReader.Read())

{

Mobile = dataReader.GetString(0);

}

dataReader.Close();

Cust\_ID.Text = RentalGrid[0, e.RowIndex].Value.ToString();

FirstNameCust.Text = First\_Name;

LastName\_Cust.Text = Last\_Name;

AddressCust.Text = (string)RentalGrid[3, e.RowIndex].Value;

PhoneCust.Text = Mobile;

Issue\_Date = RentalGrid[6, e.RowIndex].Value.ToString();

iss\_Date = Convert.ToDateTime(Issue\_Date);

Return\_Date = RentalGrid[7, e.RowIndex].Value.ToString();

rtn\_Date = Convert.ToDateTime(Return\_Date);

IssueMovieDate.Text = Issue\_Date;

ReturnedDate.Text = Return\_Date;

}

String Custmer\_ID = "";

private void CustGrid\_CellContentClick(object sender, DataGridViewCellEventArgs e)

{

Custmer\_ID = CustGrid[0, e.RowIndex].Value.ToString();

Cust\_ID.Text = Custmer\_ID;

FirstNameCust.Text= (string)CustGrid[1, e.RowIndex].Value;

LastName\_Cust.Text = (string)CustGrid[2, e.RowIndex].Value;

AddressCust.Text = (string)CustGrid[3, e.RowIndex].Value;

PhoneCust.Text = (string)CustGrid[4, e.RowIndex].Value;

}

private void deleteCust\_Click(object sender, EventArgs e)

{

String Delete\_Query = "Delete From Customer where CustID ="+Custmer\_ID+"";

SqlCommand cmd = new SqlCommand(Delete\_Query, conn);

SqlDataReader dataReader = cmd.ExecuteReader();

MessageBox.Show("Customer deleted sucessfully");

dataReader.Close();

}

private void updateButton\_Click(object sender, EventArgs e)

{

tabControl1\_movisRenatl.SelectedTab = customersTab;

String Sql\_Customers = "Select \* From Customer";

SqlCommand cmd = new SqlCommand(Sql\_Customers, conn);

SqlDataAdapter Adp\_Rentals = new SqlDataAdapter(cmd);

DataTable Data\_Grid1 = new DataTable();

Adp\_Rentals.Fill(Data\_Grid1);

CustGrid.DataSource = Data\_Grid1;

}

private void button\_Deletemovie\_Click(object sender, EventArgs e)

{

String Delete\_Query = "Delete From Movies where MovieID =" + MovId + "";

Console.WriteLine(Delete\_Query);

SqlCommand cmd = new SqlCommand(Delete\_Query, conn);

SqlDataReader dataReader = cmd.ExecuteReader();

MessageBox.Show("Movie Deleted sucessfully");

dataReader.Close();

}

private void button\_updatemovie\_Click(object sender, EventArgs e)

{

tabControl1\_movisRenatl.SelectedTab = MoviesTab;

String Sql\_Customers = "Select \* From Movies";

SqlCommand cmd = new SqlCommand(Sql\_Customers, conn);

SqlDataAdapter Adp\_Rentals = new SqlDataAdapter(cmd);

DataTable Data\_Grid1 = new DataTable();

Adp\_Rentals.Fill(Data\_Grid1);

moviesGrid.DataSource = Data\_Grid1;

}

private void button\_AddCustomer\_Click(object sender, EventArgs e)

{

String FirstName = FirstNameCust.Text;

String LastName = LastName\_Cust.Text;

String Addrss = AddressCust.Text;

String phone\_No = PhoneCust.Text;

String Insert\_Query = "Insert into Customer ([FirstName], [LastName], [Address], [Phone]) Values('" + FirstName+"','"+LastName+"','"+Addrss+"','"+phone\_No+"')";

SqlCommand cmd = new SqlCommand(Insert\_Query, conn);

SqlDataReader dataReader = cmd.ExecuteReader();

MessageBox.Show("Customer Added sucessfully");

dataReader.Close();

}

private void button\_Addmovie\_Click(object sender, EventArgs e)

{

String Titlemov = TitleMovie.Text;

String genre = GenreMovie.Text;

String Rentalmov = RentalCostMovie.Text;

String RelDate = ReleaseDate.Text;

String Insert\_Query = "Insert into Movies ( [Title], [Genre], [Rental\_Cost], [Year]) Values('" + Titlemov + "','" + genre + "','" + Rentalmov + "','" + RelDate + "')";

SqlCommand cmd = new SqlCommand(Insert\_Query, conn);

SqlDataReader dataReader = cmd.ExecuteReader();

MessageBox.Show("Movie Added sucessfully");

dataReader.Close();

}

String MovId = "";

private void moviesGrid\_CellContentClick(object sender, DataGridViewCellEventArgs e)

{

MovId = moviesGrid[0, e.RowIndex].Value.ToString();

MovieID.Text = MovId;

TitleMovie.Text = (string)moviesGrid[1, e.RowIndex].Value;

GenreMovie.Text = moviesGrid[2, e.RowIndex].Value.ToString();

RentalCostMovie.Text = moviesGrid[3, e.RowIndex].Value.ToString();

ReleaseDate.Text = moviesGrid[4, e.RowIndex].Value.ToString();

}

private void issueMovie\_Click(object sender, EventArgs e)

{

String Insert\_Qry = "Insert into RentedMovies ( [MovieIDFK], [CustIDFK], [DateRented], [DateReturned]) Values("+MovId+","+Custmer\_ID+",'"+ iss\_Date + "','"+rtn\_Date+"')";

SqlCommand cmd = new SqlCommand(Insert\_Qry, conn);

SqlDataReader dataReader = cmd.ExecuteReader();

dataReader.Close();

String Sql\_Rentals = "Select RMID, C.FirstName as FirstName, C.LastName as LastName, C.Address as Address,M.Title as Title, M.Rental\_Cost as Rental\_Cost, R.DateRented, R.DateReturned From RentedMovies R join Customer C on R.CustIDFK=C.CustID join Movies M on R.MovieIDFK=M.MovieID";

MessageBox.Show("Movie issued sucessfully");

cmd = new SqlCommand(Sql\_Rentals, conn);

SqlDataAdapter Adp\_Rentals = new SqlDataAdapter(cmd);

DataTable Data\_Grid1 = new DataTable();

Adp\_Rentals.Fill(Data\_Grid1);

RentalGrid.DataSource = Data\_Grid1;

}

private void returnMovie\_Click(object sender, EventArgs e)

{

String Delete\_Query = "Delete From RentedMovies where CustIDFK =(Select CustID from Customer where FirstName ='"+First\_Name+"') and MovieIDFK =(Select MovieID from Movies where Title = '"+Title+"')";

SqlCommand cmd = new SqlCommand(Delete\_Query, conn);

SqlDataReader dataReader = cmd.ExecuteReader();

MessageBox.Show("Customer Rented Information deleted sucessfully");

String Sql\_Rentals = "Select RMID, C.FirstName as FirstName, C.LastName as LastName, C.Address as Address,M.Title as Title, M.Rental\_Cost as Rental\_Cost, R.DateRented, R.DateReturned From RentedMovies R join Customer C on R.CustIDFK=C.CustID join Movies M on R.MovieIDFK=M.MovieID";

dataReader.Close();

cmd = new SqlCommand(Sql\_Rentals, conn);

SqlDataAdapter Adp\_Rentals = new SqlDataAdapter(cmd);

DataTable Data\_Grid1 = new DataTable();

Adp\_Rentals.Fill(Data\_Grid1);

RentalGrid.DataSource = Data\_Grid1;

}

private void radioButton\_Allrented\_CheckedChanged(object sender, EventArgs e)

{

tabControl1\_movisRenatl.SelectedTab = RenatlTAb;

String Sql\_Rentals = "Select RMID, C.FirstName as FirstName, C.LastName as LastName, C.Address as Address,M.Title as Title, M.Rental\_Cost as Rental\_Cost, R.DateRented, R.DateReturned From RentedMovies R join Customer C on R.CustIDFK=C.CustID join Movies M on R.MovieIDFK=M.MovieID";

SqlCommand cmd = new SqlCommand(Sql\_Rentals, conn);

SqlDataAdapter Adp\_Rentals = new SqlDataAdapter(cmd);

DataTable Data\_Grid1 = new DataTable();

Adp\_Rentals.Fill(Data\_Grid1);

RentalGrid.DataSource = Data\_Grid1;

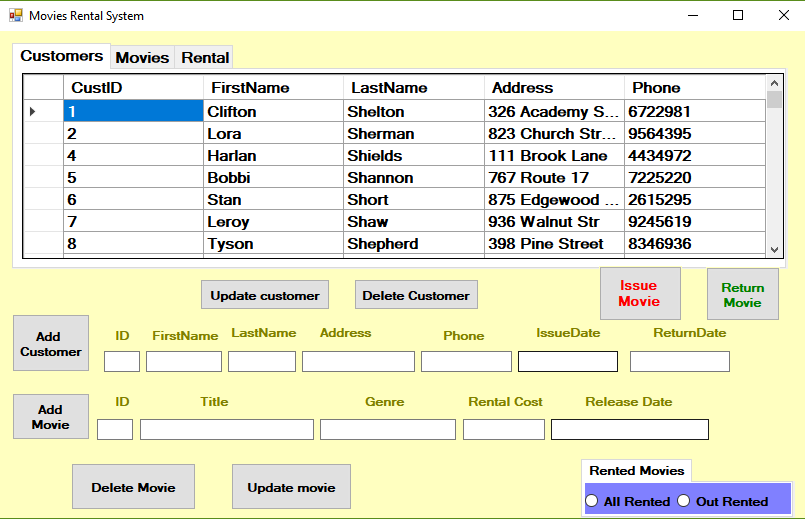
}

}

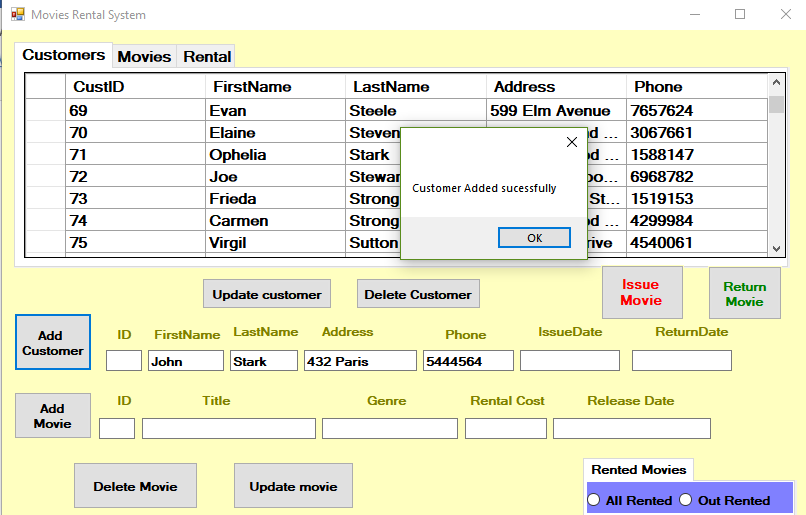
}

Output :

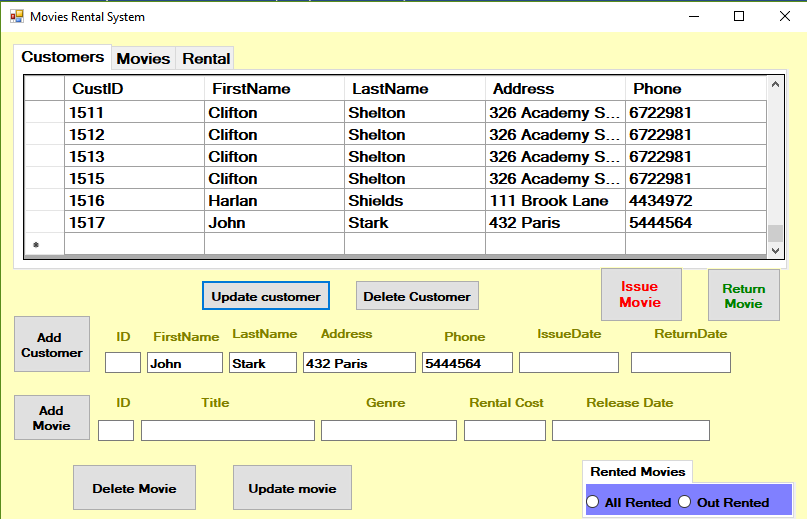
1. When We Start Debugging Code the below Screen Will appear.



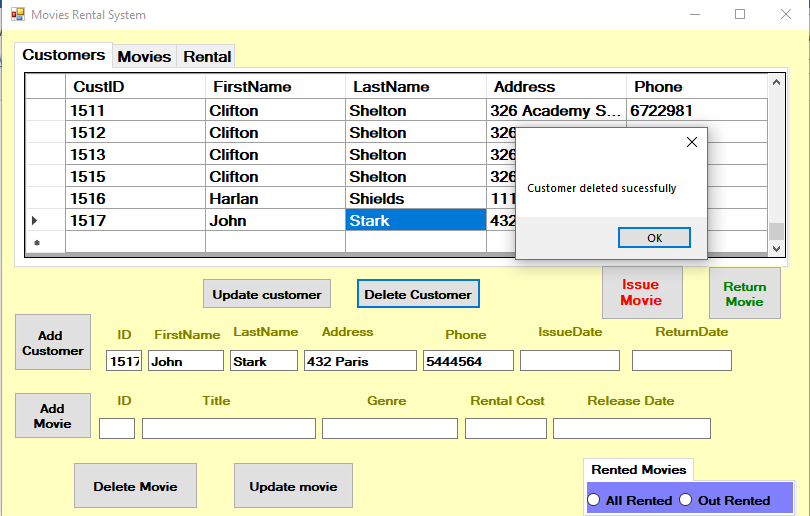
2. Shopkeeper can Add the Customer Name To the Database.



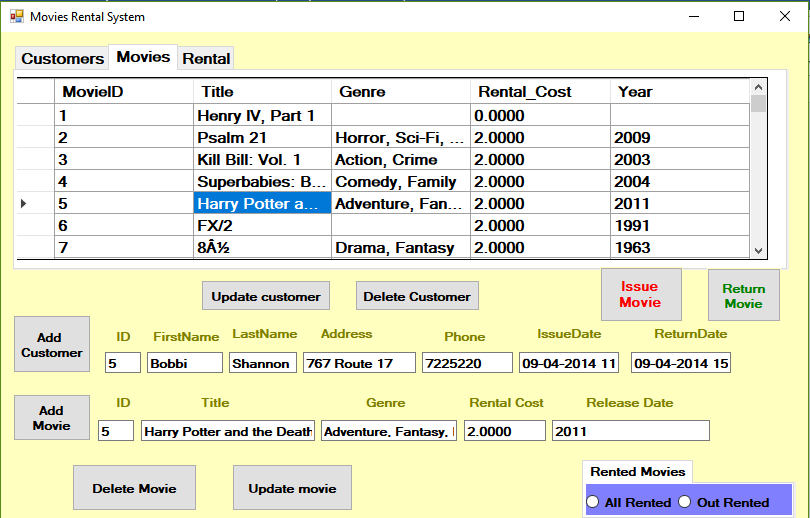
3. After Adding The Customer Name to the Database, Updated the Customer lists.



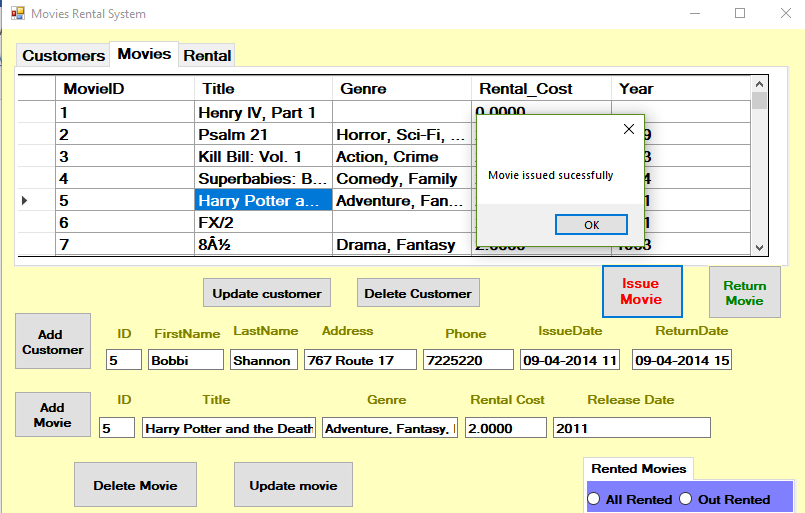
4. Shopkeeper Can delete the Customer Information from The Database, which has not rented any movies.



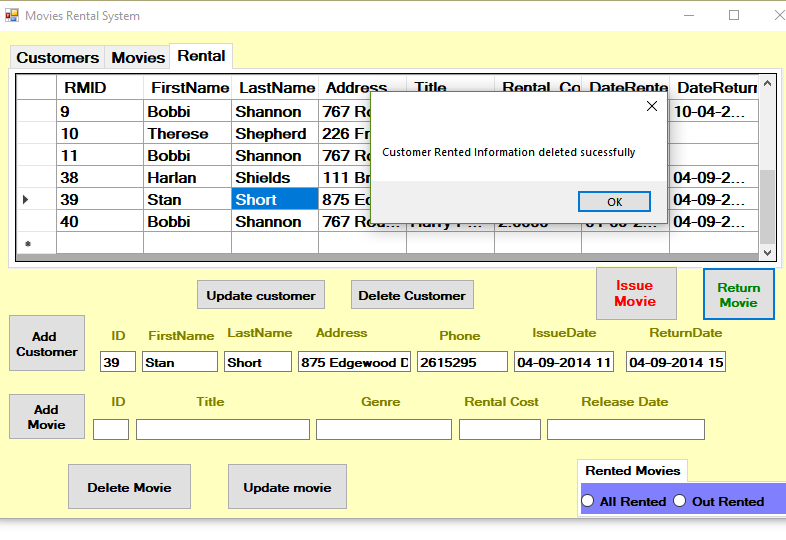
5. Shopkeeper can issue the movies to Customer.



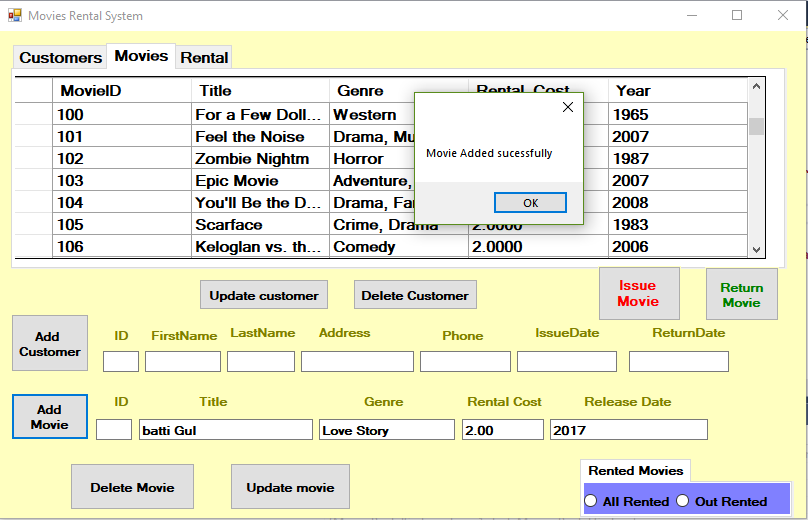
6. Movie issued and database added information.



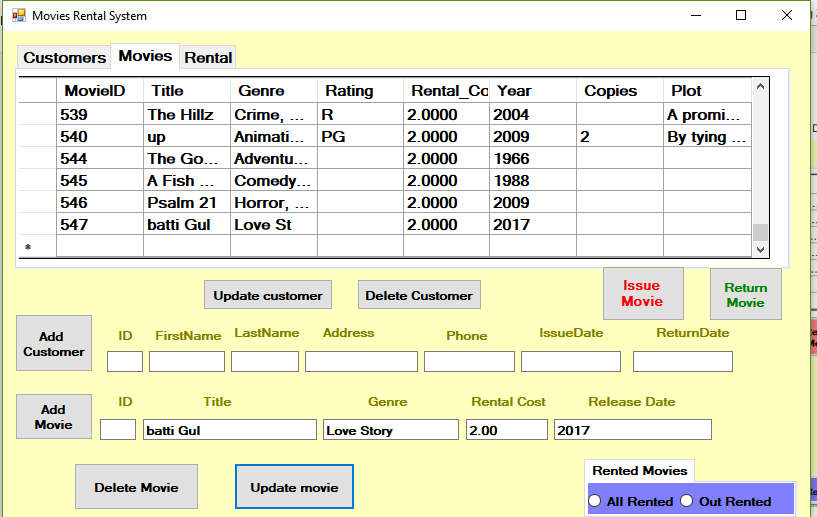
7. Movie Rented information deleted.



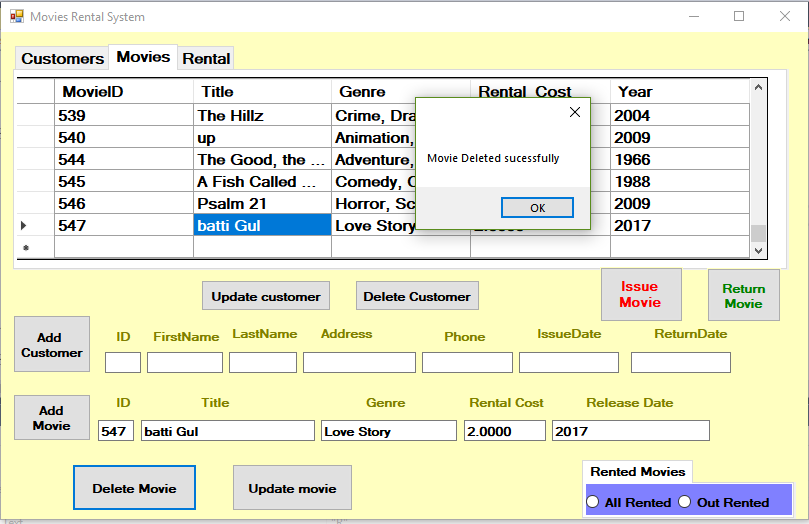
8. Shopkeeper can Add the movies to The Database.



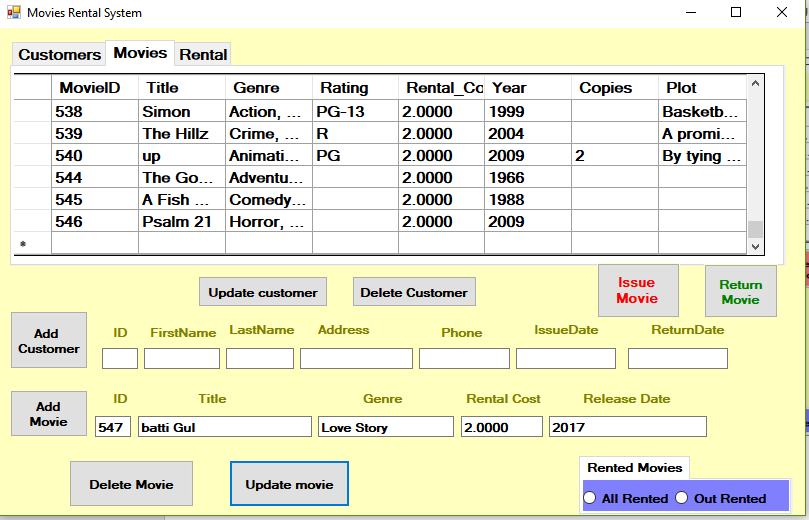
9. Once Movies Added to the Database, Updated List in The Database.



10. Delete movie from Database.



11. Update Movies database after deleting movie.



12. Unit Testing.

a). I have Testing The connection to the Database By Unit Testing Methods.

code :-

using Microsoft.VisualStudio.TestTools.UnitTesting;

using MoviesRentalSystems;

namespace moviRentalSystemTest

{

[TestClass]

public class UnitTest1

{

Form1 form = new Form1();

[TestMethod]

public void ConnectionTest()

{

if(form.conn ==null)

{

form.Connection = false;

}

else

{

form.Connection = true;

}

Assert.IsTrue(form.Connection);

}

[TestMethod]

public void Show\_Lists\_Test()

{

bool rtrnMov = form.Show\_Lists;

Assert.IsTrue(rtrnMov);

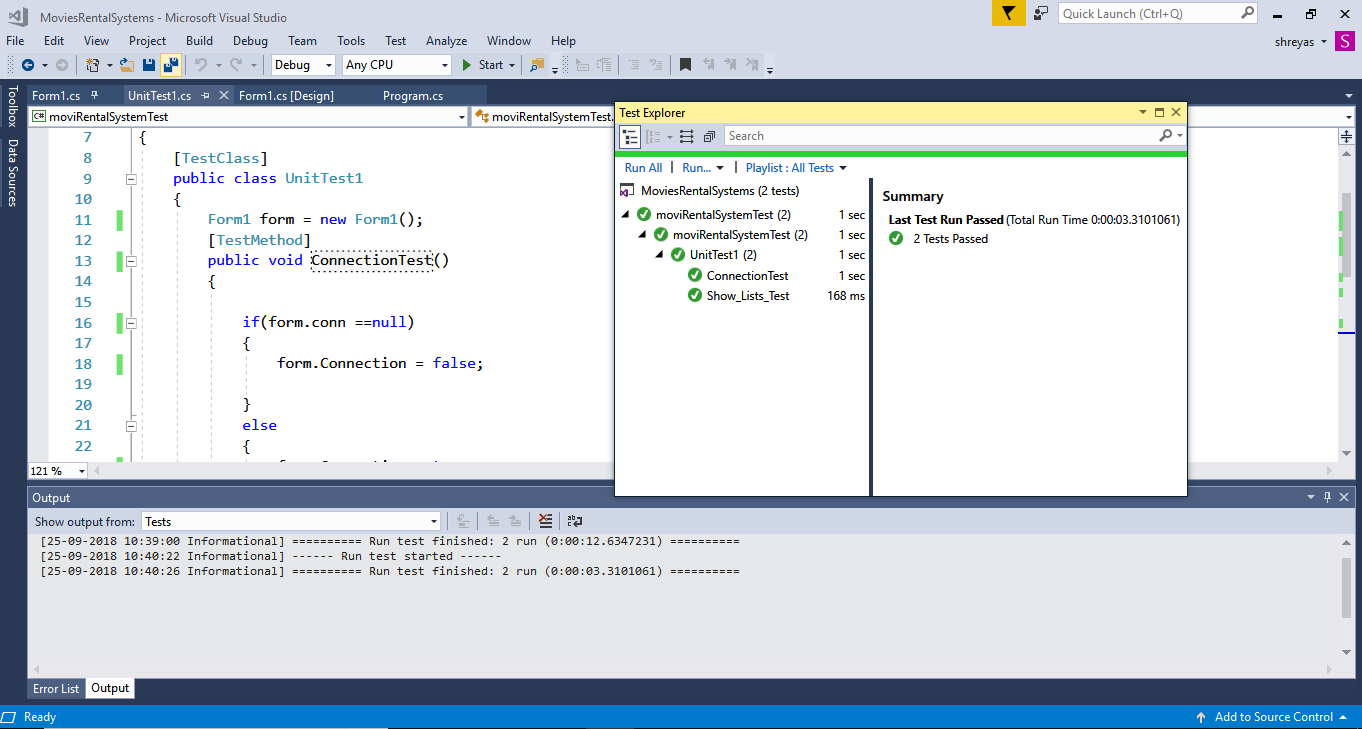
}

}

}

Test result :-

When test completed successfully



b). Test for Show\_List

code:

[TestMethod]

public void Show\_Lists\_Test()

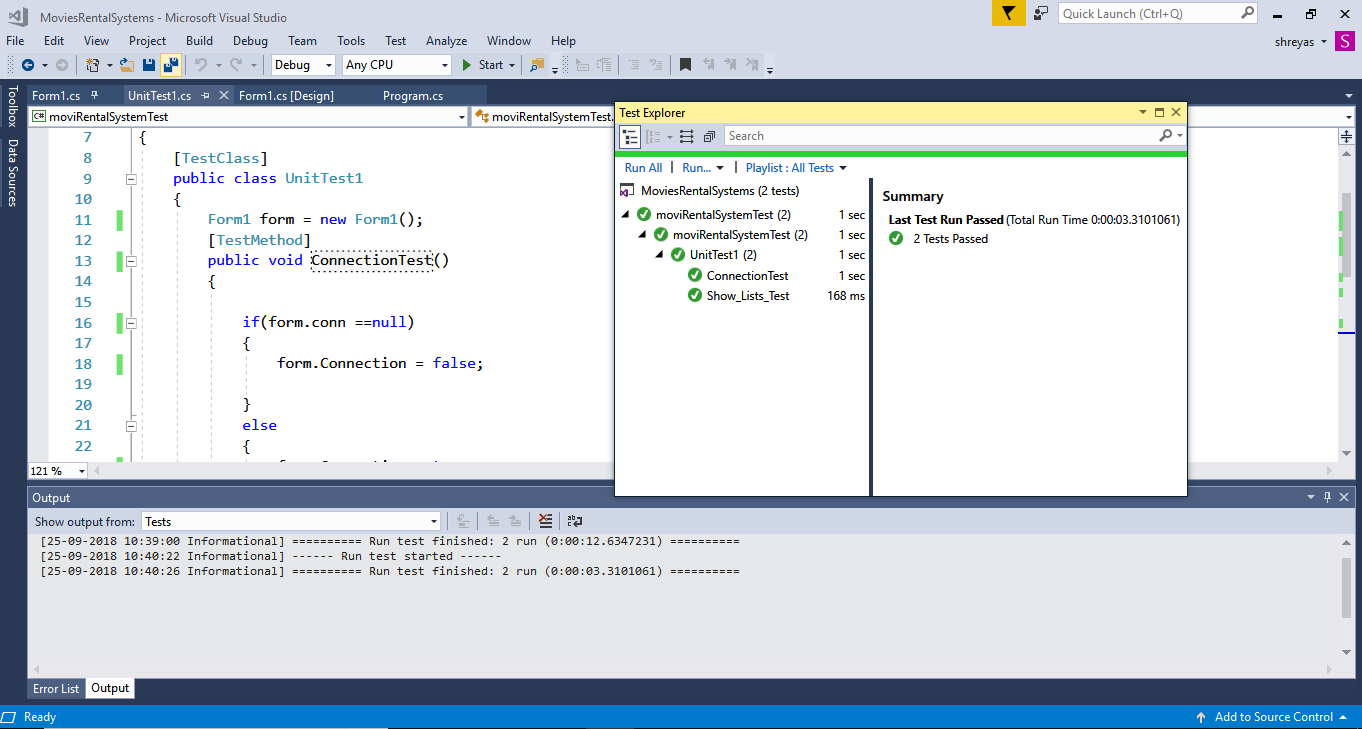
{

bool rtrnMov = form.Show\_Lists;

Assert.IsTrue(rtrnMov);

}

Test Result:-



Relational Model Design: -

