

BIS 698 – Information Systems Project

Assignment 2

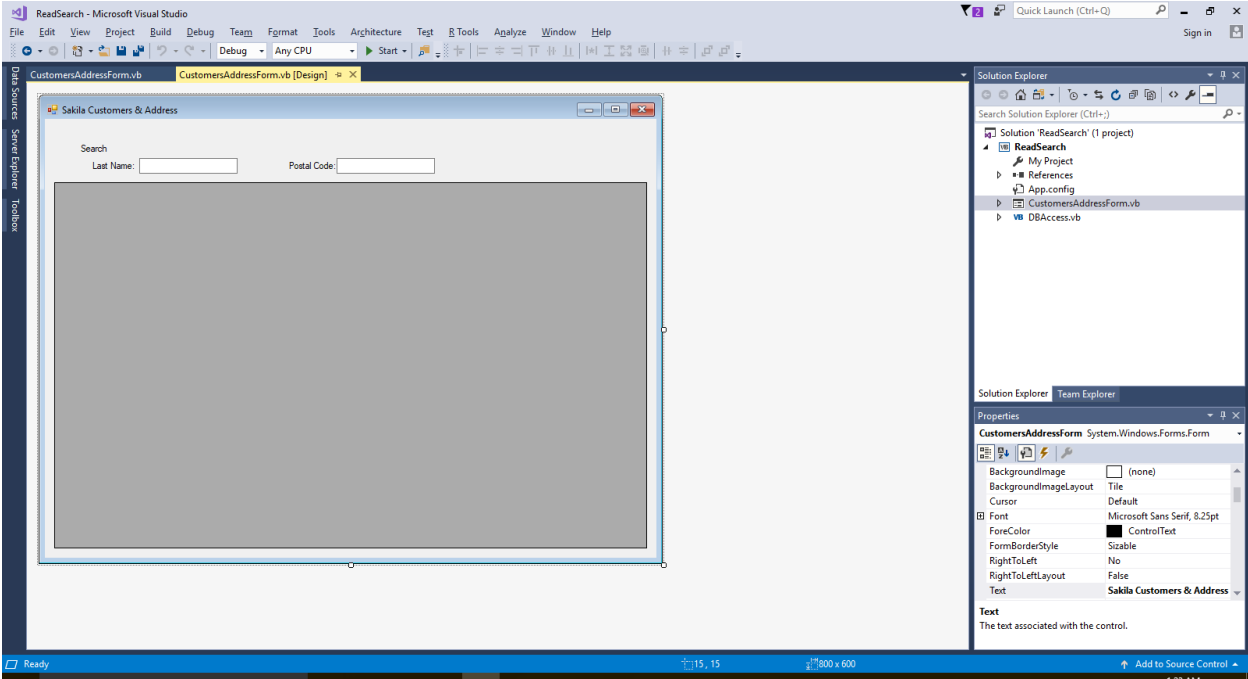
- Project 2A

Due date: 1/26/2019 5:59PM

By: Jason Robson

Project 2A

1. Design View



3. Codes

a. Database connection created.

```
'Project: ReadSearch2 DBAccess  
'Programmer: Jason Robson  
'Date: 1/25/2019  
'Description: This project establishes a connection to the MySQL sakila database
```

```
Imports System.Data.Odbc  
Public Class DBAccess
```

```
    Private ConnectionString As String = "Driver={MySQL ODBC 5.3 ANSI Driver};  
server=141.209.241.47; database=sakila; user=remove; password=remove"
```

```
    Private DBConnection As New OdbcConnection(ConnectionString)
```

```
    Private DBCommand As OdbcCommand
```

```
    Public DBDataAdapter As OdbcDataAdapter
```

```
    Public Params As New List(Of OdbcParameter)
```

```
    Public RecordCount As Integer
```

```
    Public DBDataTable As DataTable
```

```
    Public Exception As String
```

```
    Public Sub ExecuteQuery(QueryString As String)
```

```
        RecordCount = 0
```

```
        Exception = String.Empty
```

```
    Try
```

```
        DBConnection.Open()
```

```
        DBCommand = New OdbcCommand(QueryString, DBConnection)
```

```
        For Each p As OdbcParameter In Params
```

```
            DBCommand.Parameters.Add(p)
```

```
        Next
```

```
        Params.Clear()
```

```
        DBDataAdapter = New OdbcDataAdapter(DBCommand)
```

```
        DBDataTable = New DataTable
```

```
        RecordCount = DBDataAdapter.Fill(DBDataTable)
```

```
    Catch ex As Exception
```

```
        Exception = ex.Message
```

```
    End Try
```

```

        If DBConnection.State = ConnectionState.Open Then
            DBConnection.Close()
        End If
    End Sub

    Public Sub AddParam(Name As String, Value As Object)
        Dim NewParam As New OdbcParameter(Name, Value)

        Params.Add(NewParam)
    End Sub

End Class
4.

```

b. Customer last name or postal code search.

```

'Project: ReadSearch2
'Programmer: Jason Robson
'Date: 1/25/2019
'Description: This project searches for customer by last name or postal code.

Public Class CustomersAddressForm

    Private DB As New DBAccess

    Private Sub CustomersAddressForm_Load(sender As Object, e As EventArgs) Handles
Me.Load

        DBDataGridView.ReadOnly = True

        DB.ExecuteQuery("SELECT first_name, last_name, email, active, create_date,
address, district, postal_code, phone FROM customer, address WHERE customer.address_id =
address.address_id")

        If DB.Exception <> String.Empty Then
            MessageBox.Show(DB.Exception)
            Exit Sub
        End If

        DBDataGridView.DataSource = DB.DBDataTable

    End Sub

    Private Sub SearchCustomerbyLastName(LastName As String)
        DB.AddParam("@last_name", LastName & "%")

        DB.ExecuteQuery("SELECT first_name, last_name, email, active, create_date,
address, district, postal_code, phone FROM customer, address WHERE customer.address_id =
address.address_id and last_name LIKE ?")

        If DB.Exception <> String.Empty Then
            MessageBox.Show(DB.Exception)
        End If
    End Sub

```

```

        DBDataGridView.DataSource = DB.DBDataTable

    End Sub

    Private Sub LastNameTextBox_KeyUp(sender As Object, e As KeyEventArgs) Handles
LastNameTextBox.KeyUp
        SearchCustomerbyLastName(LastNameTextBox.Text)
        PostalCodeTextBox.Clear()
    End Sub

    Private Sub SearchAddressbyPostalCode(PostalCode As String)
        DB.AddParam("@postal_code", PostalCode & "%")

        DB.ExecuteNonQuery("SELECT first_name, last_name, email, active, create_date,
address, district, postal_code, phone FROM customer, address WHERE customer.address_id =
address.address_id and postal_code LIKE ?")

        If DB.Exception <> String.Empty Then
            MessageBox.Show(DB.Exception)
        End If

        DBDataGridView.DataSource = DB.DBDataTable

    End Sub

    Private Sub PostalCodeTextBox_KeyUp(sender As Object, e As KeyEventArgs) Handles
PostalCodeTextBox.KeyUp
        SearchAddressbyPostalCode(PostalCodeTextBox.Text)
        LastNameTextBox.Clear()
    End Sub

End Class

```

BIS 698 – Information Systems Project

Assignment 4

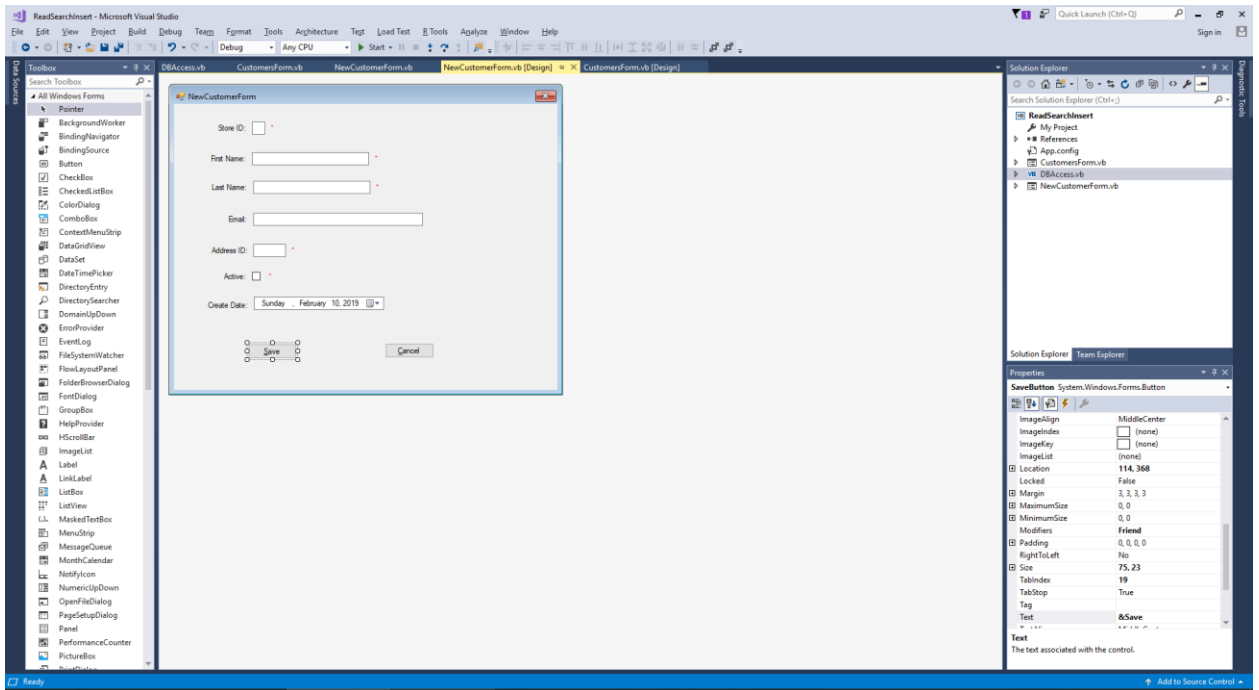
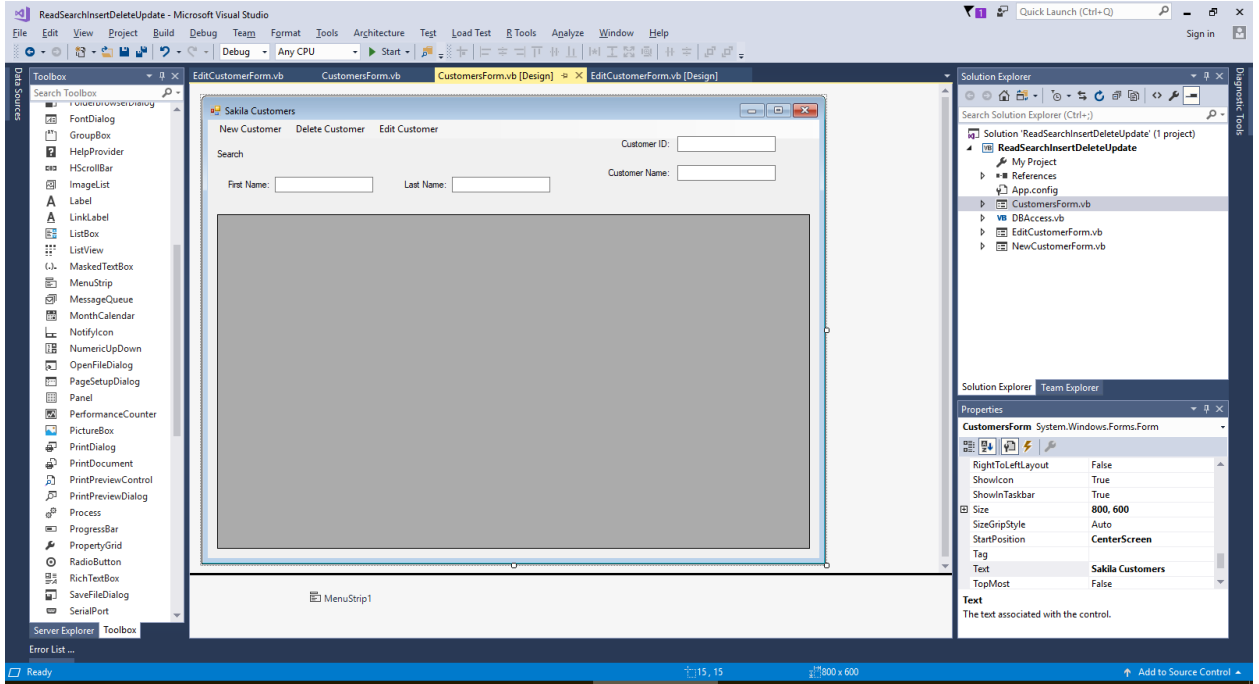
- Project 4A
- Project 4B

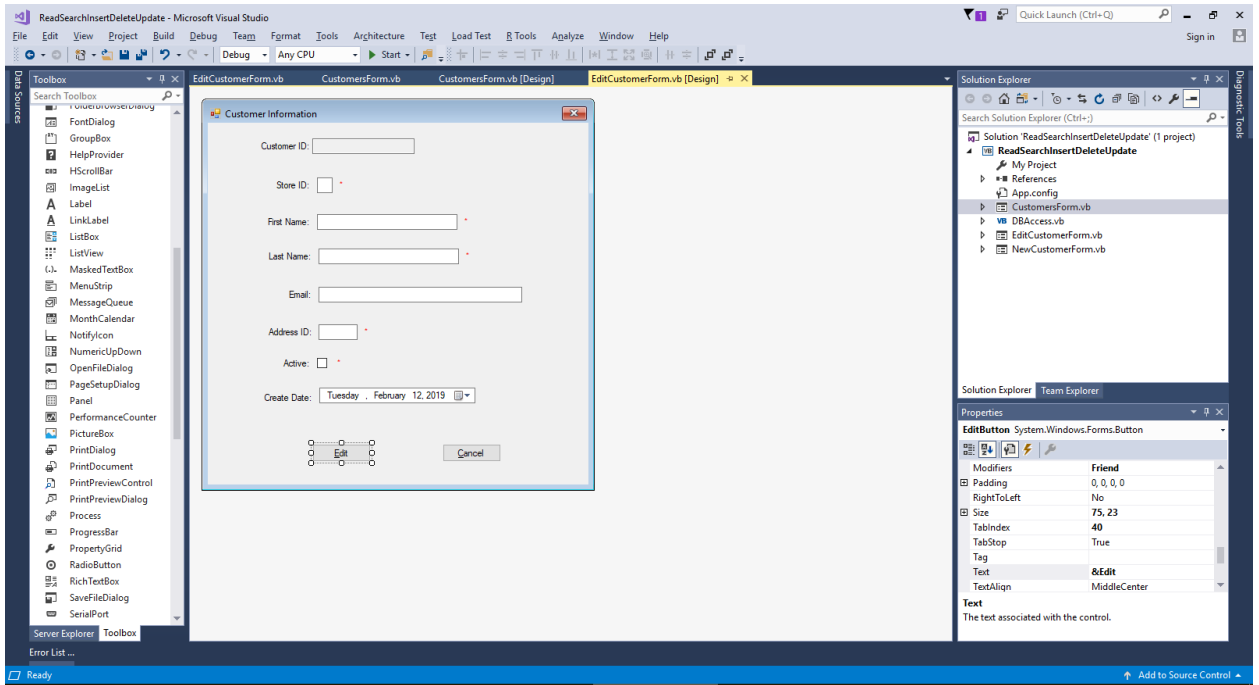
Due date: 2/17/2019 11:59PM

By: Jason Robson

Project 4A

1. Design View





2. Execution Views

a. Customer first name is entered.

Sakila Customers

New Customer

First Name: Last Name:

	customer_id	store_id	first_name	last_name	email	address_id	active
▶	652	1	Nemo	Fish	nemo@fish.edu	324	1
	663	1	Nemo	Fish	nemo@fish.edu	324	1
	667	1	Nemo	Fish	nemo@fish.edu	324	1
	668	1	Nemo	Fish	nemo@fish.edu	324	1
	723	1	Nemo	Fish	nemo@fish.com	324	1
	738	1	Nemo	Fish	nemofish@nemof...	332	1
	739	1	Nemo	Fish	nemofish@cmu.e...	343	1
	775	1	nemo	fish	nemo@gmail.com	345	1
	777	2	nemo	fish	nemo@fish.edu	345	1
	778	1	nemo	fish	nemo@fish.edu	544	1
	779	1	Nemo	Fish	nemo@fish.gmail....	501	1
	780	1	Nemo	Fish	nemo@fish.edu	324	1
	782	1	nemo	fish	nemo@fish.edu	324	1
	806	1	Nemo	Fish	nemo@fish.edu	324	1
	808	1	Nemo	Fish	nemo@fish.edu	324	1
	809	1	Nemo	Fish	nemo@fish.edu	324	1
	812	1	Nemo	Fish	Nemo@fish.edu	324	1
	820	1	Nemo	Fish	nemo@fish.edu	324	1
	826	1	nemo	dory	nemo.dory@fish....	325	1
	827	1	nemo	fish	nemo@fish.edu	324	1

b. Customer last name is entered.

Sakila Customers

New Customer

First Name: Last Name:

	customer_id	store_id	first_name	last_name	email	address_id	active
▶	652	1	Nemo	Fish	nemo@fish.edu	324	1
	663	1	Nemo	Fish	nemo@fish.edu	324	1
	667	1	Nemo	Fish	nemo@fish.edu	324	1
	668	1	Nemo	Fish	nemo@fish.edu	324	1
	723	1	Nemo	Fish	nemo@fish.com	324	1
	738	1	Nemo	Fish	nemofish@nemof...	332	1
	739	1	Nemo	Fish	nemofish@cmu.e...	343	1
	775	1	nemo	fish	nemo@gmail.com	345	1
	777	2	nemo	fish	nemo@fish.edu	345	1
	778	1	nemo	fish	nemo@fish.edu	544	1
	779	1	Nemo	Fish	nemo@fish.gmail....	501	1
	780	1	Nemo	Fish	nemo@fish.edu	324	1
	782	1	nemo	fish	nemo@fish.edu	324	1
	806	1	Nemo	Fish	nemo@fish.edu	324	1
	808	1	Nemo	Fish	nemo@fish.edu	324	1
	809	1	Nemo	Fish	nemo@fish.edu	324	1
	812	1	Nemo	Fish	Nemo@fish.edu	324	1
	820	1	Nemo	Fish	nemo@fish.edu	324	1
	822	2	Fish	Fish	nemo@fish.com	333	1
	824	1	Nemo	Fish	nemo@fish.edu	324	1

c. Inserting new customer

NewCustomerForm

Store ID: *


First Name: *

Last Name: *

Email:

Address ID: *

Active: *

Create Date: 

d. Update customer record

Customer Information

Customer ID: 652

Store ID: 2 *

First Name: Nemo *

Last Name: Fish *

Email: nemo@fish.edu

Address ID: 324 *

Active: *

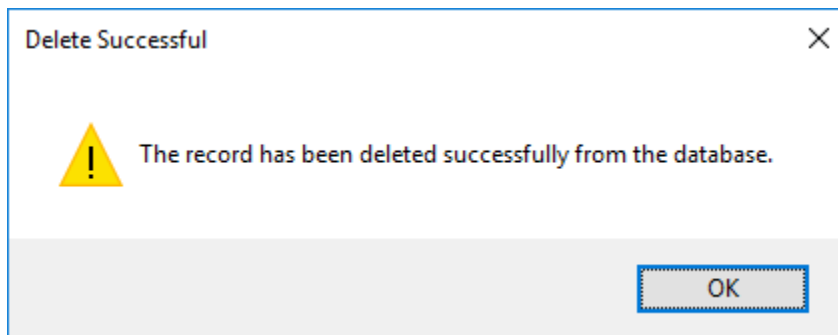
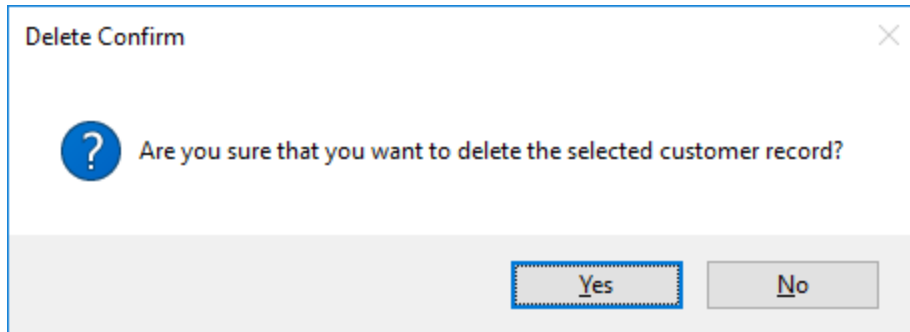
Create Date: Wednesday, January 23, 2019

Save Cancel

The customer record is updated successfully.

OK

e. Delete customer record



3. Codes

a. Database connection created.

```
'Project: ReadSearch DBAccess  
'Programmer: Jason Robson  
'Date: 2/10/2019  
'Description: This project establishes a connection to the MySQL sakila database
```

```
Imports System.Data.Odbc  
Public Class DBAccess
```

```
    Private ConnectionString As String = "Driver={MySQL ODBC 5.3 ANSI Driver};  
server=141.209.241.47; database=sakila; user=remove; password=remove"
```

```
    Private DBConnection As New OdbcConnection(ConnectionString)
```

```
    Private DBCommand As OdbcCommand
```

```
    Public DBDataAdapter As OdbcDataAdapter
```

```
    Public Params As New List(Of OdbcParameter)
```

```
    Public RecordCount As Integer
```

```
    Public DBDataTable As DataTable
```

```

Public Exception As String

Public Sub ExecuteQuery(QueryString As String)
    RecordCount = 0
    Exception = String.Empty

    Try
        DBConnection.Open()

        DBCommand = New OdbcCommand(QueryString, DBConnection)

        For Each p As OdbcParameter In Params
            DBCommand.Parameters.Add(p)
        Next
        Params.Clear()

        DBDataAdapter = New OdbcDataAdapter(DBCommand)

        DBDataTable = New DataTable

        RecordCount = DBDataAdapter.Fill(DBDataTable)

    Catch ex As Exception

        Exception = ex.Message

    End Try

    If DBConnection.State = ConnectionState.Open Then
        DBConnection.Close()
    End If
End Sub

Public Sub AddParam(Name As String, Value As Object)
    Dim NewParam As New OdbcParameter(Name, Value)

    Params.Add(NewParam)
End Sub

End Class
4.

```

b. Customer first name or last name search.

```

'Project: ReadSearchInsert
'Programmer: Jason Robson
'Date: 2/17/2019
'Description: This project searches, updates, delete, inserts customer by first or last
name.

```

```

Public Class CustomersForm

    Private DB As New DBAccess

```

```

Private Sub CustomersForm_Load(sender As Object, e As EventArgs) Handles Me.Load

    DBDataGridView.ReadOnly = True

    DB.ExecuteQuery("SELECT * FROM customer")

    If DB.Exception <> String.Empty Then
        MessageBox.Show(DB.Exception)
        Exit Sub
    End If

    DBDataGridView.DataSource = DB.DBDataTable

End Sub

Private Sub SearchCustomerbyFirstName(FirstName As String)
    DB.AddParam("@first_name", FirstName & "%")

    DB.ExecuteQuery("SELECT * FROM customer WHERE first_name LIKE ?")

    If DB.Exception <> String.Empty Then
        MessageBox.Show(DB.Exception)
    End If

    DBDataGridView.DataSource = DB.DBDataTable

End Sub

Private Sub FirstNameTextBox_KeyUp(sender As Object, e As KeyEventArgs) Handles
FirstNameTextBox.KeyUp
    SearchCustomerbyFirstName(FirstNameTextBox.Text)
    LastNameTextBox.Clear()
End Sub

Private Sub SearchCustomerbyLastName(LastName As String)
    DB.AddParam("@last_name", LastName & "%")

    DB.ExecuteQuery("SELECT * FROM customer WHERE last_name LIKE ?")

    If DB.Exception <> String.Empty Then
        MessageBox.Show(DB.Exception)
    End If

    DBDataGridView.DataSource = DB.DBDataTable

End Sub

Private Sub LastNameTextBox_KeyUp(sender As Object, e As KeyEventArgs) Handles
LastNameTextBox.KeyUp
    SearchCustomerbyLastName(LastNameTextBox.Text)
    FirstNameTextBox.Clear()
End Sub

Private Sub NewCustomerToolStripMenuItem_Click(sender As Object, e As EventArgs)
Handles NewCustomerToolStripMenuItem.Click
    NewCustomerForm.Show()

```



```

End Sub

Private Sub DBDataGridView_CellClick(sender As Object, e As DataGridViewCellEventArgs)
Handles DBDataGridView.CellClick
    If e.ColumnIndex < 0 Or e.RowIndex < 0 Then
        Exit Sub
    End If

    'select the customer
    SelectCustomer(DBDataGridView.Item(3, e.RowIndex).Value, DBDataGridView.Item(2,
e.RowIndex).Value)

End Sub

Private Sub SelectCustomer(CustomerLastName As String, CustomerFirstName As String)
    DB.AddParam("@firstname", CustomerFirstName)
    DB.AddParam("@lastname", CustomerLastName)
    DB.ExecuteQuery("SELECT customer_id, first_name, last_name FROM customer WHERE
first_name = ? and last_name = ?")

    If DB.Exception <> String.Empty Then
        MessageBox.Show(DB.Exception)
        Exit Sub
    End If

    Dim SearchedRow As DataRow = DB.DBDataTable.Rows(0)
    CustomerIDTextBox.Text = SearchedRow!customer_id.ToString
    CustomerNameTextBox.Text = SearchedRow!last_name.ToString & ", " &
SearchedRow!first_name.ToString

    DeleteCustomerToolStripMenuItem.Enabled = True
    EditCustomerToolStripMenuItem.Enabled = True

End Sub

Private Sub DeleteCustomer()
    If MessageBox.Show("Are you sure that you want to delete the selected customer
record?", "Delete Confirm", MessageBoxButtons.YesNo, MessageBoxIcon.Question) =
DialogResult.No Then
        Exit Sub
    End If

    DB.AddParam("@customerID", CustomerIDTextBox.Text)
    DB.ExecuteQuery("DELETE FROM customer WHERE customer_id = ?")

    If DB.Exception <> String.Empty Then
        MessageBox.Show(DB.Exception)
        Exit Sub
    End If

    MessageBox.Show("The record has been deleted successfully from the database.",
"Delete Successful", MessageBoxButtons.OK, MessageBoxIcon.Exclamation)

    CustomerIDTextBox.Clear()
    CustomerNameTextBox.Clear()
    DeleteCustomerToolStripMenuItem.Enabled = False
    RefreshDBDataGridView()

```

```

End Sub

Private Sub RefreshDBDataGridView()
    DB.ExecuteQuery("SELECT * FROM customer ORDER BY customer_id")

    If DB.Exception <> String.Empty Then
        MessageBox.Show(DB.Exception)
        Exit Sub
    End If

    DBDataGridView.DataSource = DB.DBDataTable

End Sub

Private Sub DeleteCustomerToolStripMenuItem_Click(sender As Object, e As EventArgs)
Handles DeleteCustomerToolStripMenuItem.Click
    DeleteCustomer()
End Sub

Private Sub DBDataGridView_CellDoubleClick(sender As Object, e As
DataGridViewCellEventArgs) Handles DBDataGridView.CellDoubleClick
    If e.RowIndex < 0 Or e.ColumnIndex < 0 Then
        Exit Sub
    End If

    SelectCustomer(DBDataGridView.Item(3, e.RowIndex).Value, DBDataGridView.Item(2,
e.RowIndex).Value)
    EditCustomerForm.ShowDialog()
End Sub

Private Sub EditCustomerToolStripMenuItem_Click(sender As Object, e As EventArgs)
Handles EditCustomerToolStripMenuItem.Click
    EditCustomerForm.ShowDialog()
End Sub
End Class

End Class

```

c. Insert new customer.

```

'Project: ReadSearchInsert
'Programmer: Jason Robson
'Date: 2/10/2019
'Description: This project inserts new customer.

```

```

Public Class NewCustomerForm
    Private DB As New DBAccess

```

```

Private Sub AddCustomer()

If String.IsNullOrEmpty(StoreIDTextBox.Text) Then
    MessageBox.Show("Store ID cannot be empty.")
    StoreIDTextBox.SelectAll()
    StoreIDTextBox.Focus()
    Exit Sub

End If

Dim StoreID As Integer
If Integer.TryParse(StoreIDTextBox.Text, StoreID) = False Then
    MessageBox.Show("Store ID cannot be empty")
    StoreIDTextBox.SelectAll()
    StoreIDTextBox.Focus()
    Exit Sub
End If

If StoreID > 2 Or StoreID < 1 Then
    MessageBox.Show("Store ID has to be between 1 and 2")
    StoreIDTextBox.SelectAll()
    StoreIDTextBox.Focus()
    Exit Sub
End If

If String.IsNullOrEmpty(FirstNameTextBox.Text) Then
    MessageBox.Show("First name cannot be empty.")
    FirstNameTextBox.SelectAll()
    FirstNameTextBox.Focus()
    Exit Sub
End If

If String.IsNullOrEmpty(LastNameTextBox.Text) Then
    MessageBox.Show("Last name cannot be empty.")
    LastNameTextBox.SelectAll()
    LastNameTextBox.Focus()
    Exit Sub
End If

If String.IsNullOrEmpty(AddressTextBox.Text) Then
    MessageBox.Show("Address ID cannot be empty.")
    AddressTextBox.SelectAll()
    AddressTextBox.Focus()
    Exit Sub

End If

Dim AddressID As Integer
If Integer.TryParse(AddressTextBox.Text, AddressID) = False Then
    MessageBox.Show("Address ID cannot be empty")
    AddressTextBox.SelectAll()
    AddressTextBox.Focus()
    Exit Sub
End If

```

```

    If AddressID > 600 Or AddressID < 1 Then
        MessageBox.Show("Address ID has to be between 1 and 600")
        AddressTextBox.SelectAll()
        AddressTextBox.Focus()
        Exit Sub
    End If

    If ActiveCheckBox.Checked = False Then
        MessageBox.Show("New customer should be active")
        ActiveCheckBox.Focus()
        Exit Sub
    End If

    'add parameters
    DB.AddParameter("@storeID", StoreIDTextBox.Text)
    DB.AddParameter("@firstname", FirstNameTextBox.Text)
    DB.AddParameter("@lastname", LastNameTextBox.Text)
    DB.AddParameter("@email", EmailTextBox.Text)
    DB.AddParameter("@addressID", AddressTextBox.Text)
    DB.AddParameter("@active", ActiveCheckBox.Checked)
    DB.AddParameter("@createdate", CreateDateTimePicker.Value)

    DB.ExecuteNonQuery("INSERT INTO customer(store_id, first_name, last_name, email,
address_id, active, create_date)" & "VALUES(?, ?, ?, ?, ?, ?, ?)")

    If Not String.IsNullOrEmpty(DB.Exception) Then
        MessageBox.Show(DB.Exception)
        Exit Sub
    End If

    'success
    MessageBox.Show("A new customer is added successfully.")

    Me.Close()
End Sub

Private Sub CancelButton_Click(sender As Object, e As EventArgs) Handles
CancelButton.Click
    Me.Close()
End Sub

Private Sub SaveButton_Click(sender As Object, e As EventArgs) Handles
SaveButton.Click
    AddCustomer()
End Sub
End Class

```

d. Edit customer

```
'Project: ReadSearchInsertDeleteUpdate
```

```
'Programmer: Jason Robson
'Date: 2/17/2019
'Description: This project updates customer information.
```

```
Public Class EditCustomerForm
    Private DB As New DBAccess

    Private Sub EditCustomerForm_Load(sender As Object, e As EventArgs) Handles Me.Load
        If String.IsNullOrEmpty(CustomersForm.CustomerIDTextBox.Text) Then
            Exit Sub
        End If

        DB.AddParam("@customerID", CustomersForm.CustomerIDTextBox.Text)
        DB.ExecuteQuery("SELECT * FROM customer WHERE customer_id = ?")
        If DB.Exception <> String.Empty Then
            Exit Sub
        End If

        CustomerIDTextBox.Text = DB.DBDataTable(0)!customer_id
        StoreIDTextBox.Text = DB.DBDataTable(0)!store_id
        FirstNameTextBox.Text = DB.DBDataTable(0)!first_name
        LastNameTextBox.Text = DB.DBDataTable(0)!last_name
        EmailTextBox.Text = DB.DBDataTable(0)!email
        AddressTextBox.Text = DB.DBDataTable(0)!address_id
        ActiveCheckBox.Checked = DB.DBDataTable(0)!active
        CreateDateTimePicker.Value = DB.DBDataTable(0)!create_date
    End Sub

    Private Sub CancelButton_Click(sender As Object, e As EventArgs) Handles
CancelButton.Click
        Me.Close()
    End Sub

    Private Sub EnableFields(Switch As Boolean)
        StoreIDTextBox.Enabled = Switch
        FirstNameTextBox.Enabled = Switch
        LastNameTextBox.Enabled = Switch
        EmailTextBox.Enabled = Switch
        AddressTextBox.Enabled = Switch
        ActiveCheckBox.Enabled = Switch
        CreateDateTimePicker.Enabled = Switch
    End Sub

    Private Sub EditButton_Click(sender As Object, e As EventArgs) Handles
EditButton.Click

        If EditButton.Text = "&Edit" Then
            'Edit mode
            EnableFields(True)
            EditButton.Text = "&Save"

Else
            'Save mode

        If String.IsNullOrEmpty(StoreIDTextBox.Text) Then
```

```

        MessageBox.Show("Store ID cannot be empty.")
        StoreIDTextBox.SelectAll()
        StoreIDTextBox.Focus()
    Exit Sub

End If

Dim StoreID As Integer
If Integer.TryParse(StoreIDTextBox.Text, StoreID) = False Then
    MessageBox.Show("Store ID cannot be empty")
    StoreIDTextBox.SelectAll()
    StoreIDTextBox.Focus()
    Exit Sub
End If

If StoreID > 2 Or StoreID < 1 Then
    MessageBox.Show("Store ID has to be between 1 and 2")
    StoreIDTextBox.SelectAll()
    StoreIDTextBox.Focus()
    Exit Sub
End If

If String.IsNullOrEmpty(FirstNameTextBox.Text) Then
    MessageBox.Show("First name cannot be empty.")
    FirstNameTextBox.SelectAll()
    FirstNameTextBox.Focus()
    Exit Sub
End If

If String.IsNullOrEmpty(LastNameTextBox.Text) Then
    MessageBox.Show("Last name cannot be empty.")
    LastNameTextBox.SelectAll()
    LastNameTextBox.Focus()
    Exit Sub
End If

If String.IsNullOrEmpty(AddressTextBox.Text) Then
    MessageBox.Show("Address ID cannot be empty.")
    AddressTextBox.SelectAll()
    AddressTextBox.Focus()
    Exit Sub

End If

Dim AddressID As Integer
If Integer.TryParse(AddressTextBox.Text, AddressID) = False Then
    MessageBox.Show("Address ID cannot be empty")
    AddressTextBox.SelectAll()
    AddressTextBox.Focus()
    Exit Sub
End If

If AddressID > 600 Or AddressID < 1 Then
    MessageBox.Show("Address ID has to be between 1 and 600")
    AddressTextBox.SelectAll()
    AddressTextBox.Focus()

```

```
Exit Sub
End If
```

```
DB.AddParam("@storeID", StoreIDTextBox.Text)
DB.AddParam("@firstname", FirstNameTextBox.Text)
DB.AddParam("@lastname", LastNameTextBox.Text)
DB.AddParam("@email", EmailTextBox.Text)
DB.AddParam("@addressID", AddressTextBox.Text)
DB.AddParam("@active", ActiveCheckBox.Checked)
DB.AddParam("@createdate", CreateDateTimePicker.Value)

DB.AddParam("@customerID", CustomerIDTextBox.Text)

DB.ExecuteQuery("UPDATE customer SET store_id=?, first_name=?, last_name=?,
email=?, address_id=?, active=? WHERE customer_id=?")

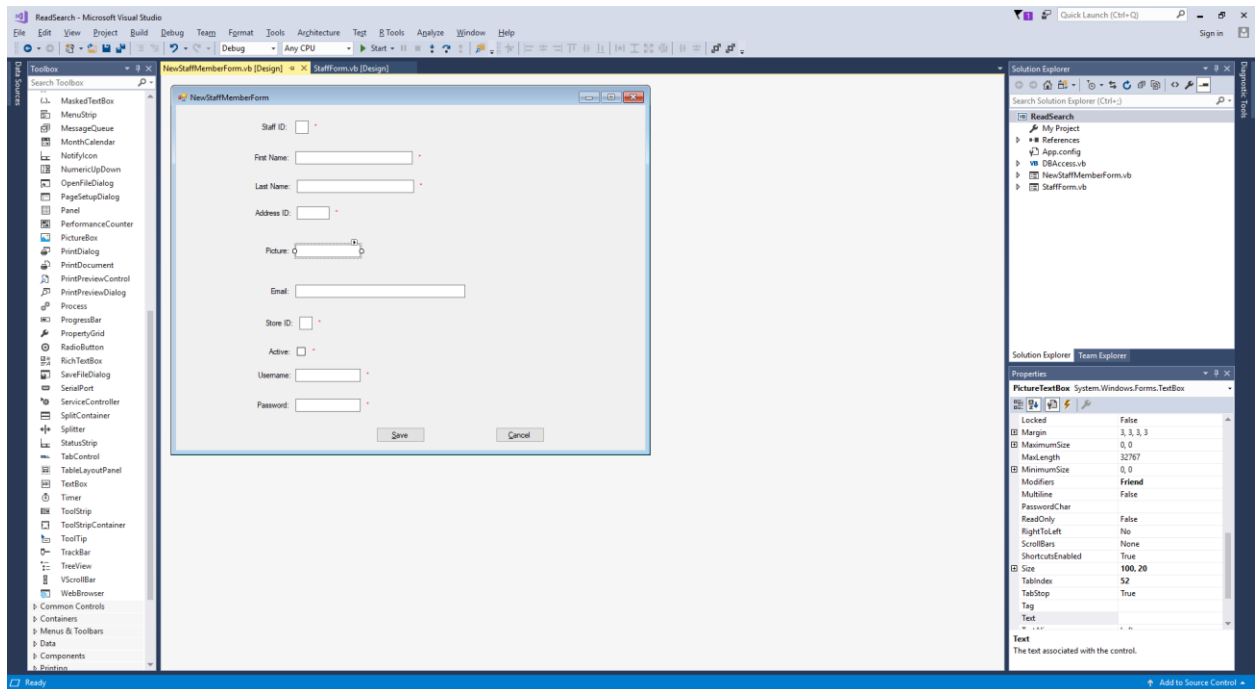
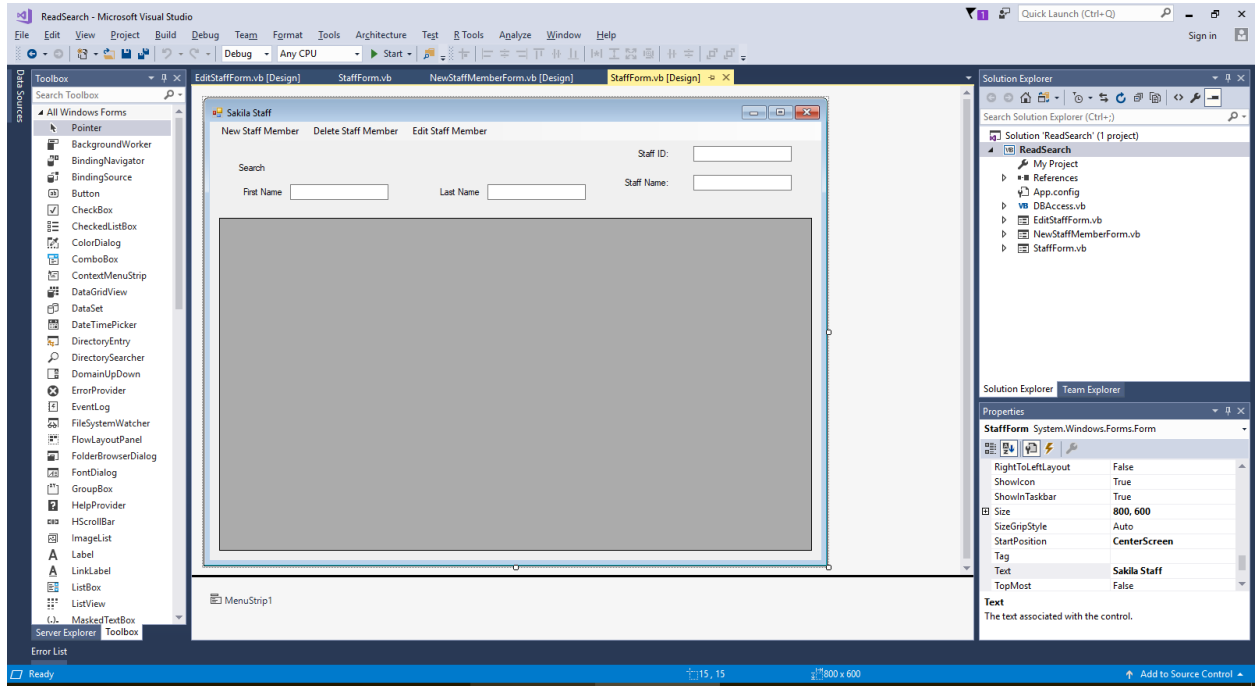
If DB.Exception <> String.Empty Then
    MessageBox.Show(DB.Exception)
Else
    MessageBox.Show("The customer record is updated successfully.")
End If

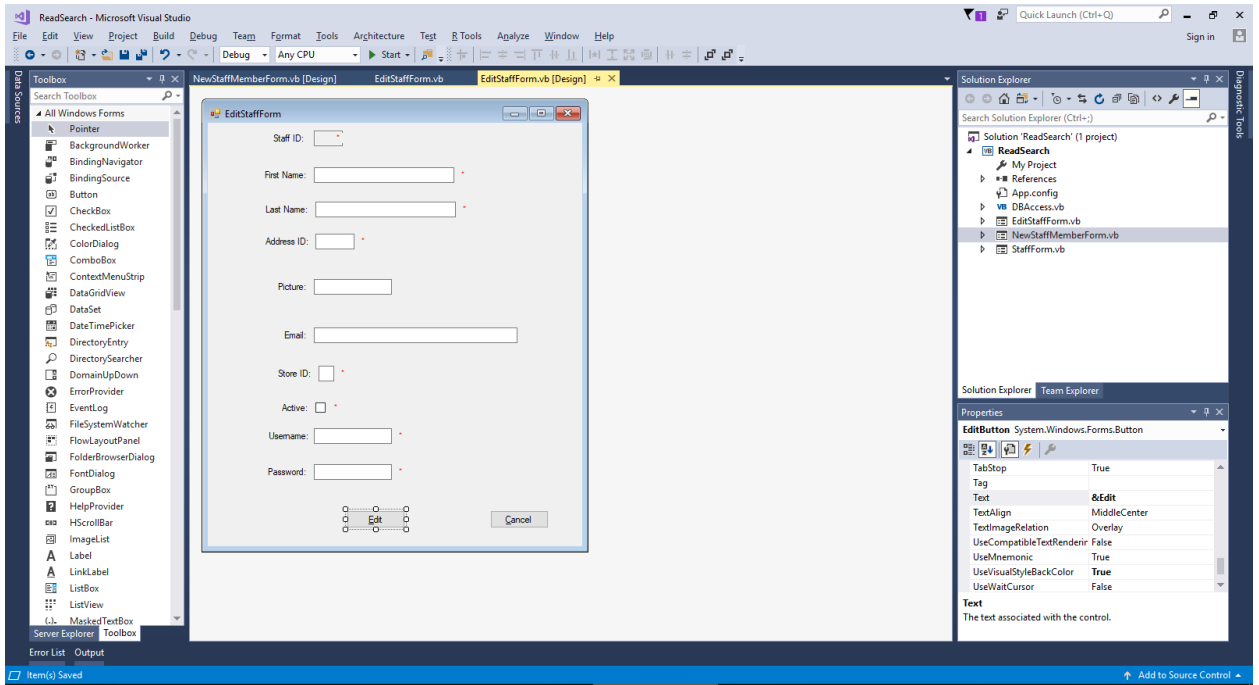
EditButton.Text = "&Edit"
EnableFields(False)
End If
```

```
End Sub
End Class
```

Project 4B

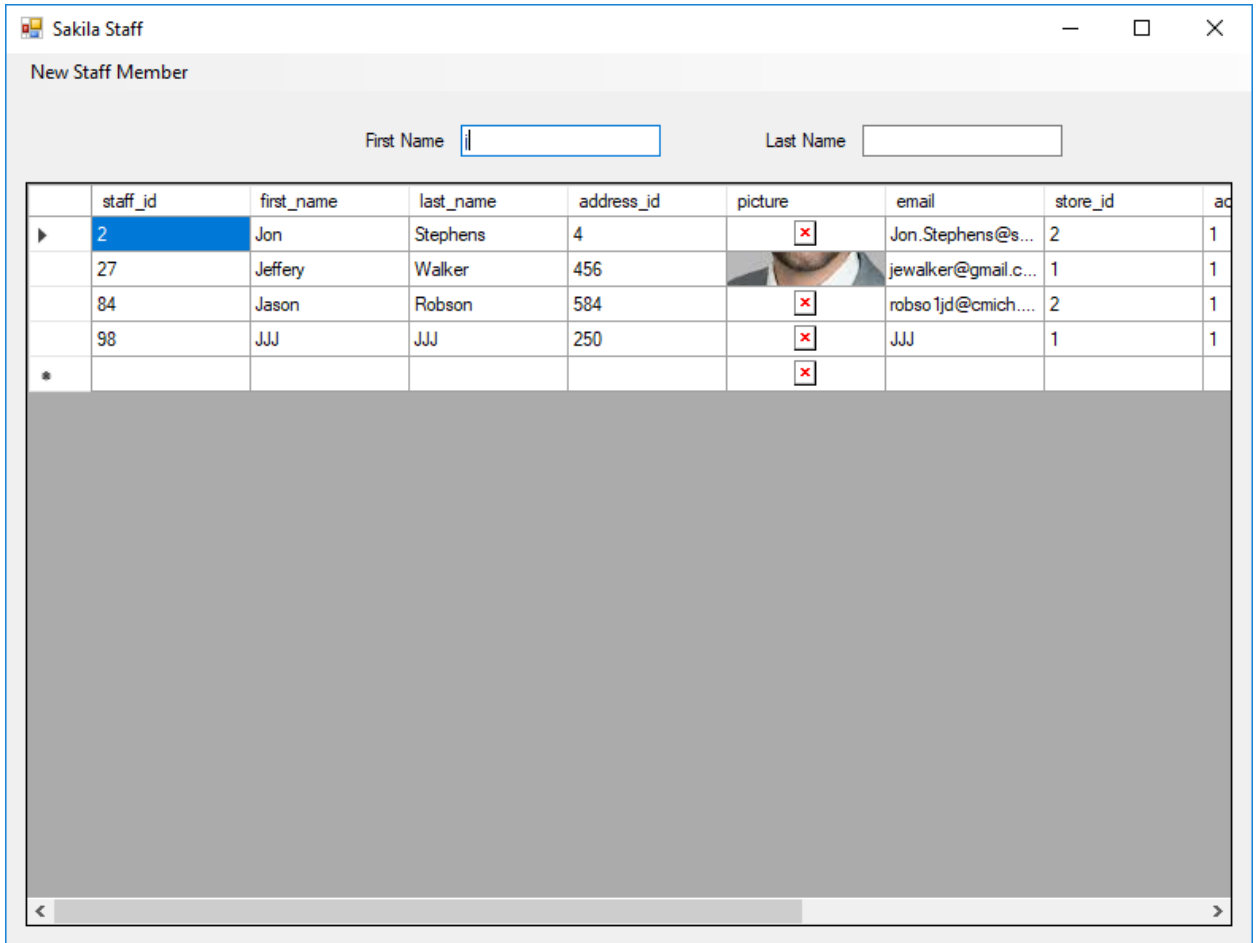
4. Design View





5. Execution Views

- a. Employee first name is entered.



b. Employee last name is entered.

Sakila Staff

New Staff Member

First Name Last Name

	staff_id	first_name	last_name	address_id	picture	email	store_id	ac
▶	33	Manogna	Rangineni	222	<input type="checkbox"/>	mano@gmail.com	1	1
	34	Mano	Rangi	225	<input type="checkbox"/>	rangi1@gmail.com	2	1
	74	Manasa	Rangi	199	<input type="checkbox"/>	mana.rangi@gma...	2	1
	84	Jason	Robson	584	<input type="checkbox"/>	robso1jd@cmich....	2	1
	116	Tobi	Raji	307	<input type="checkbox"/>	tobiraji@gmail.com	1	1
*					<input type="checkbox"/>			

c. Insert new employee

NewStaffMemberForm

Staff ID: *

First Name: *

Last Name: *

Address ID: *

Picture:

Email:

Store ID: *

Active: *

Username: *

Password: *

d. Edit staff

The screenshot shows a window titled "EditStaffForm" with a standard Windows title bar (minimize, maximize, close buttons). The form contains the following fields and controls:

- Staff ID:
- First Name:
- Last Name:
- Address ID:
- Picture:
- Email:
- Store ID:
- Active:
- Username:
- Password:

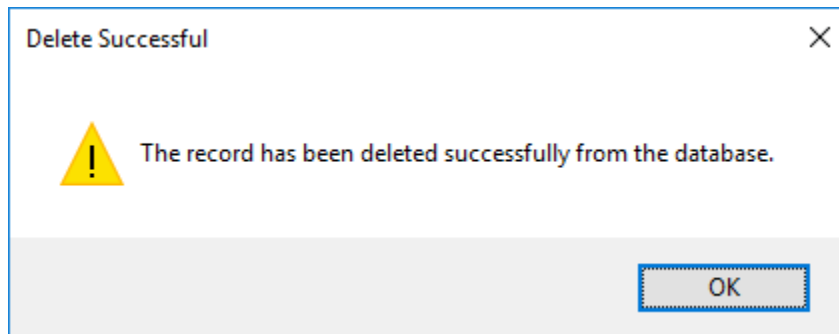
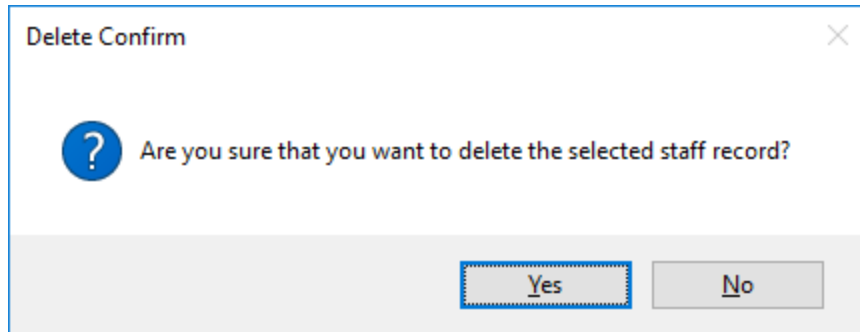
At the bottom of the form, there are two buttons: "Save" (highlighted with a blue border) and "Cancel".

The screenshot shows a small dialog box with a close button (X) in the top right corner. The text inside the dialog box reads:

The staff record is updated successfully.

At the bottom of the dialog box, there is an "OK" button.

e. Delete record



6. Codes

a. Employee first name or last name search.

```
'Project: ReadSearchInsert2  
'Programmer: Jason Robson  
'Date: 2/17/2019  
'Description: This project searches, inserts, update, deletes staff member by first or  
last name.
```

```
Public Class StaffForm
```

```
    Private DB As New DBAccess
```

```
    Private Sub StaffForm_Load(sender As Object, e As EventArgs) Handles Me.Load
```

```
        DBDataGridView.ReadOnly = True
```

```
        DB.ExecuteQuery("SELECT * FROM staff")
```

```
        If DB.Exception <> String.Empty Then
```

```
            MessageBox.Show(DB.Exception)
```

```
            Exit Sub
```

```
        End If
```

```
        DBDataGridView.DataSource = DB.DBDataTable
```

```

End Sub

Private Sub SearchEmployeebyFirstName(FirstName As String)
    DB.AddParameter("@first_name", FirstName & "%")

    DB.ExecuteQuery("SELECT * FROM staff WHERE first_name LIKE ?")

    If DB.Exception <> String.Empty Then
        MessageBox.Show(DB.Exception)
    End If

    DBDataGridView.DataSource = DB.DBDataTable

End Sub

Private Sub FirstNameTextBox_KeyUp(sender As Object, e As KeyEventArgs) Handles
FirstNameTextBox.KeyUp
    SearchEmployeebyFirstName(FirstNameTextBox.Text)
    LastNameTextBox.Clear()
End Sub

Private Sub SearchEmployeebyLastName(LastName As String)
    DB.AddParameter("@last_name", LastName & "%")

    DB.ExecuteQuery("SELECT * FROM staff WHERE last_name LIKE ?")

    If DB.Exception <> String.Empty Then
        MessageBox.Show(DB.Exception)
    End If

    DBDataGridView.DataSource = DB.DBDataTable

End Sub

Private Sub LastNameTextBox_KeyUp(sender As Object, e As KeyEventArgs) Handles
LastNameTextBox.KeyUp
    SearchEmployeebyLastName(LastNameTextBox.Text)
    FirstNameTextBox.Clear()
End Sub

Private Sub NewStaffMemberToolStripMenuItem_Click(sender As Object, e As EventArgs)
Handles NewStaffMemberToolStripMenuItem.Click
    NewStaffMemberForm.Show()
End Sub

Private Sub DBDataGridView_CellClick(sender As Object, e As DataGridViewCellEventArgs)
Handles DBDataGridView.CellClick
    If e.ColumnIndex < 0 Or e.RowIndex < 0 Then
        Exit Sub
    End If

    'select the customer
    SelectStaff(DBDataGridView.Item(3, e.RowIndex).Value, DBDataGridView.Item(2,
e.RowIndex).Value)

```

```

End Sub

Private Sub SelectStaff(StaffLastName As String, StaffFirstName As String)
    DB.AddParam("@firstname", StaffFirstName)
    DB.AddParam("@lastname", StaffLastName)
    DB.ExecuteQuery("SELECT staff_id, first_name, last_name FROM staff WHERE
first_name = ? and last_name = ?")

    If DB.Exception <> String.Empty Then
        MessageBox.Show(DB.Exception)
        Exit Sub
    End If

    Dim SearchedRow As DataRow = DB.DBDataTable.Rows(0)
    StaffIDTextBox.Text = SearchedRow!staff_id.ToString
    StaffNameTextBox.Text = SearchedRow!last_name.ToString & ", " &
SearchedRow!first_name.ToString

    DeleteStaffMemberToolStripMenuItem.Enabled = True
    EditSToolStripMenuItem.Enabled = True

End Sub

Private Sub DeleteCustomer()
    If MessageBox.Show("Are you sure that you want to delete the selected staff
record?", "Delete Confirm", MessageBoxButtons.YesNo, MessageBoxIcon.Question) =
DialogResult.No Then
        Exit Sub
    End If

    DB.AddParam("@staffID", StaffIDTextBox.Text)
    DB.ExecuteQuery("DELETE FROM staff WHERE staff_id = ?")

    If DB.Exception <> String.Empty Then
        MessageBox.Show(DB.Exception)
        Exit Sub
    End If

    MessageBox.Show("The record has been deleted successfully from the database.",
"Delete Successful", MessageBoxButtons.OK, MessageBoxIcon.Exclamation)

    StaffIDTextBox.Clear()
    StaffNameTextBox.Clear()
    DeleteStaffMemberToolStripMenuItem.Enabled = False
    RefreshDBDataGridView()

End Sub

Private Sub RefreshDBDataGridView()
    DB.ExecuteQuery("SELECT * FROM staff ORDER BY staff_id")

    If DB.Exception <> String.Empty Then
        MessageBox.Show(DB.Exception)
        Exit Sub
    End If

    DBDataGridView.DataSource = DB.DBDataTable

```



```

End Sub

Private Sub DeleteStaffToolStripMenuItem_Click(sender As Object, e As EventArgs)
Handles DeleteStaffMemberToolStripMenuItem.Click
DeleteCustomer()
End Sub

Private Sub DBDataGridView_CellDoubleClick(sender As Object, e As
DataGridViewCellEventArgs) Handles DBDataGridView.CellDoubleClick
If e.RowIndex < 0 Or e.ColumnIndex < 0 Then
Exit Sub
End If

SelectStaff(DBDataGridView.Item(3, e.RowIndex).Value, DBDataGridView.Item(2,
e.RowIndex).Value)
EditStaffForm.ShowDialog()
End Sub

Private Sub EditStaffToolStripMenuItem_Click(sender As Object, e As EventArgs)
Handles EditSToolStripMenuItem.Click
EditStaffForm.ShowDialog()
End Sub
End Class

```

b. Insert new employee

```

'Project: ReadSearchInsert2
'Programmer: Jason Robson
'Date: 2/10/2019
'Description: This project inserts new staff member

```

```

Public Class NewStaffMemberForm

Private DB As New DBAccess

Private Sub AddStaff()

If String.IsNullOrEmpty(FirstNameTextBox.Text) Then
MessageBox.Show("First name cannot be empty.")
FirstNameTextBox.SelectAll()
FirstNameTextBox.Focus()
Exit Sub
End If

If String.IsNullOrEmpty(LastNameTextBox.Text) Then
MessageBox.Show("Last name cannot be empty.")
LastNameTextBox.SelectAll()
LastNameTextBox.Focus()
Exit Sub
End If

```

```

If String.IsNullOrEmpty(AddressTextBox.Text) Then
    MessageBox.Show("Address ID cannot be empty.")
    AddressTextBox.SelectAll()
    AddressTextBox.Focus()
    Exit Sub

End If

Dim AddressID As Integer
If Integer.TryParse(AddressTextBox.Text, AddressID) = False Then
    MessageBox.Show("Address ID cannot be empty")
    AddressTextBox.SelectAll()
    AddressTextBox.Focus()
    Exit Sub
End If

If AddressID > 600 Or AddressID < 1 Then
    MessageBox.Show("Address ID has to be between 1 and 600")
    AddressTextBox.SelectAll()
    AddressTextBox.Focus()
    Exit Sub
End If

If String.IsNullOrEmpty(StoreIDTextBox.Text) Then
    MessageBox.Show("Store ID cannot be empty.")
    StoreIDTextBox.SelectAll()
    StoreIDTextBox.Focus()
    Exit Sub

End If

Dim StoreID As Integer
If Integer.TryParse(StoreIDTextBox.Text, StoreID) = False Then
    MessageBox.Show("Store ID cannot be empty")
    StoreIDTextBox.SelectAll()
    StoreIDTextBox.Focus()
    Exit Sub
End If

If StoreID > 2 Or StoreID < 1 Then
    MessageBox.Show("Store ID has to be between 1 and 2")
    StoreIDTextBox.SelectAll()
    StoreIDTextBox.Focus()
    Exit Sub
End If

If ActiveCheckBox.Checked = False Then
    MessageBox.Show("New staff member should be active")
    ActiveCheckBox.Focus()
    Exit Sub
End If

If String.IsNullOrEmpty(UsernameTextBox.Text) Then
    MessageBox.Show("Username cannot be empty.")
    UsernameTextBox.SelectAll()

```

```

        UsernameTextBox.Focus()
        Exit Sub

    End If

    'add parameter
    DB.AddParam("@firstname", FirstNameTextBox.Text)
    DB.AddParam("@lastname", LastNameTextBox.Text)
    DB.AddParam("@addressID", AddressTextBox.Text)
    DB.AddParam("@picture", PictureTextBox.Text)
    DB.AddParam("@email", EmailTextBox.Text)
    DB.AddParam("@storeID", StoreIDTextBox.Text)
    DB.AddParam("@active", ActiveCheckBox.Checked)
    DB.AddParam("@username", UsernameTextBox.Text)
    DB.AddParam("@password", PasswordTextBox.Text)

    DB.ExecuteQuery("INSERT INTO staff(first_name, last_name, address_id, picture,
email, store_id, active, username, password)" & "VALUES(?, ?, ?, ?, ?, ?, ?, ?, ?)")

    If Not String.IsNullOrEmpty(DB.Exception) Then
        MessageBox.Show(DB.Exception)
        Exit Sub
    End If

    'success
    MessageBox.Show("A new staff member is added successfully.")

    Me.Close()
End Sub

Private Sub CancelButton_Click(sender As Object, e As EventArgs) Handles
CancelButton.Click
    Me.Close()
End Sub

Private Sub SaveButton_Click(sender As Object, e As EventArgs) Handles
SaveButton.Click
    AddStaff()
End Sub
End Class

```

c. Edit staff information

```

'Project: ReadSearchInsertDeleteUpdate
'Programmer: Jason Robson
'Date: 2/17/2019
'Description: This project updates customer information.

Public Class EditStaffForm

    Private DB As New DBAccess

    Private Sub EditStaffForm_Load(sender As Object, e As EventArgs) Handles Me.Load

```

```

If String.IsNullOrEmpty(StaffForm.StaffIDTextBox.Text) Then
    Exit Sub
End If

DB.AddParam("@staffID", StaffForm.StaffIDTextBox.Text)
DB.ExecuteQuery("SELECT * FROM staff WHERE staff_id = ?")
If DB.Exception <> String.Empty Then
    Exit Sub
End If

StaffIDTextBox.Text = DB.DBDataTable(0)!staff_id
FirstNameTextBox.Text = DB.DBDataTable(0)!first_name
LastNameTextBox.Text = DB.DBDataTable(0)!last_name
AddressTextBox.Text = DB.DBDataTable(0)!address_id
PictureTextBox.Text = DB.DBDataTable(0)!picture
EmailTextBox.Text = DB.DBDataTable(0)!email
StoreIDTextBox.Text = DB.DBDataTable(0)!store_id
ActiveCheckBox.Checked = DB.DBDataTable(0)!active
UsernameTextBox.Text = DB.DBDataTable(0)!username
PasswordTextBox.Text = DB.DBDataTable(0)!password

End Sub

Private Sub CancelButton_Click(sender As Object, e As EventArgs) Handles
CancelButton.Click
    Me.Close()
End Sub

Private Sub EnableFields(Switch As Boolean)
    FirstNameTextBox.Enabled = Switch
    LastNameTextBox.Enabled = Switch
    AddressTextBox.Enabled = Switch
    PictureTextBox.Enabled = Switch
    EmailTextBox.Enabled = Switch
    StoreIDTextBox.Enabled = Switch
    ActiveCheckBox.Enabled = Switch
    UsernameTextBox.Enabled = Switch
    PasswordTextBox.Enabled = Switch
End Sub

Private Sub EditButton_Click(sender As Object, e As EventArgs) Handles
EditButton.Click

    If EditButton.Text = "&Edit" Then
        'Edit mode
        EnableFields(True)
        EditButton.Text = "&Save"

Else
    'Save mode

```

```

If String.IsNullOrEmpty(FirstNameTextBox.Text) Then
    MessageBox.Show("First name cannot be empty.")
    FirstNameTextBox.SelectAll()
    FirstNameTextBox.Focus()
    Exit Sub
End If

If String.IsNullOrEmpty(LastNameTextBox.Text) Then
    MessageBox.Show("Last name cannot be empty.")
    LastNameTextBox.SelectAll()
    LastNameTextBox.Focus()
    Exit Sub
End If

If String.IsNullOrEmpty(AddressTextBox.Text) Then
    MessageBox.Show("Address ID cannot be empty.")
    AddressTextBox.SelectAll()
    AddressTextBox.Focus()
    Exit Sub

End If

Dim AddressID As Integer
If Integer.TryParse(AddressTextBox.Text, AddressID) = False Then
    MessageBox.Show("Address ID cannot be empty")
    AddressTextBox.SelectAll()
    AddressTextBox.Focus()
    Exit Sub
End If

If AddressID > 600 Or AddressID < 1 Then
    MessageBox.Show("Address ID has to be between 1 and 600")
    AddressTextBox.SelectAll()
    AddressTextBox.Focus()
    Exit Sub
End If

If String.IsNullOrEmpty(StoreIDTextBox.Text) Then
    MessageBox.Show("Store ID cannot be empty.")
    StoreIDTextBox.SelectAll()
    StoreIDTextBox.Focus()
    Exit Sub

End If

Dim StoreID As Integer
If Integer.TryParse(StoreIDTextBox.Text, StoreID) = False Then
    MessageBox.Show("Store ID cannot be empty")
    StoreIDTextBox.SelectAll()
    StoreIDTextBox.Focus()
    Exit Sub
End If

If StoreID > 2 Or StoreID < 1 Then
    MessageBox.Show("Store ID has to be between 1 and 2")
    StoreIDTextBox.SelectAll()

```

```

        StoreIDTextBox.Focus()
    Exit Sub
End If

If String.IsNullOrEmpty(UsernameTextBox.Text) Then
    MessageBox.Show("Username cannot be empty.")
    UsernameTextBox.SelectAll()
    UsernameTextBox.Focus()
    Exit Sub
End If

DB.AddParam("@firstname", FirstNameTextBox.Text)
DB.AddParam("@lastname", LastNameTextBox.Text)
DB.AddParam("@addressID", AddressTextBox.Text)
DB.AddParam("@picture", PictureTextBox.Text)
DB.AddParam("@email", EmailTextBox.Text)
DB.AddParam("@storeID", StoreIDTextBox.Text)
DB.AddParam("@active", ActiveCheckBox.Checked)
DB.AddParam("@username", UsernameTextBox.Text)
DB.AddParam("@password", PasswordTextBox.Text)

DB.ExecuteNonQuery("UPDATE staff SET first_name=?, last_name=?, address_id=?,
picture=?, email=?, store_id=?, active=?, username=?, password=? WHERE staff_id=?")

If DB.Exception <> String.Empty Then
    MessageBox.Show(DB.Exception)
Else
    MessageBox.Show("The staff record is updated successfully.")
End If

EditButton.Text = "&Edit"
EnableFields(False)
End If

End Sub

End Class

```

BIS 698 – Information Systems Project

Assignment 5

- Project Animal Rescue Shelter

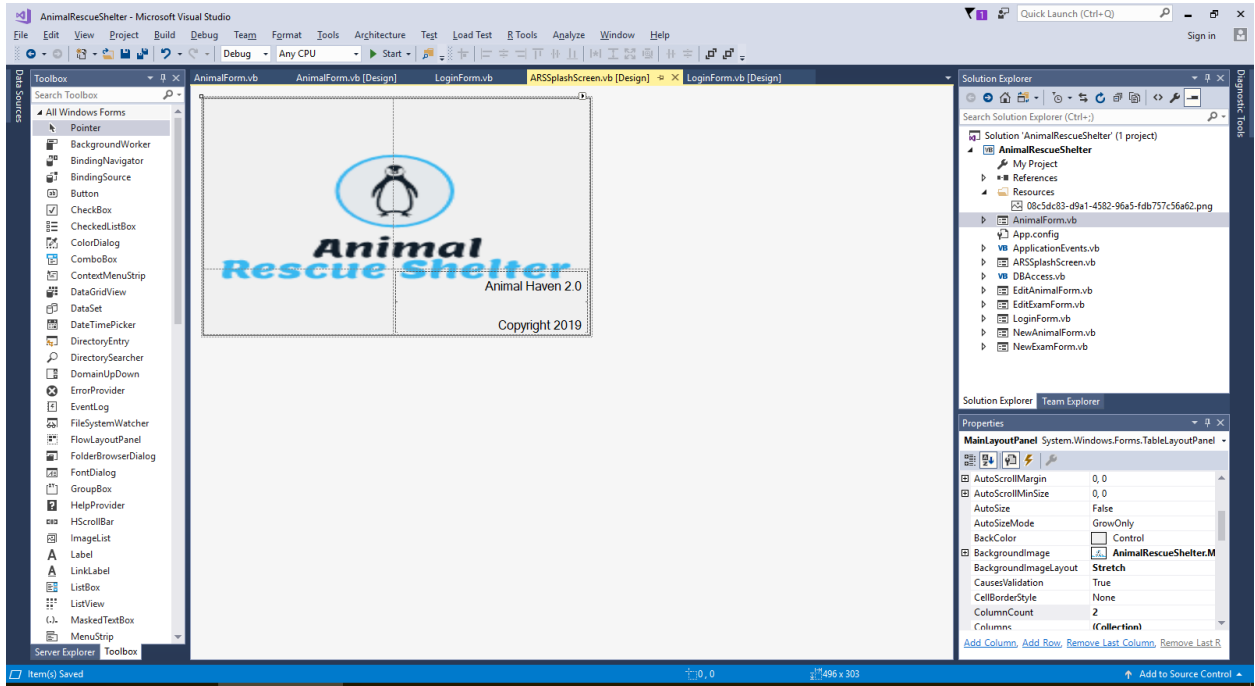
Due date: 03/23/2019 11:59PM

By: Jason Robson

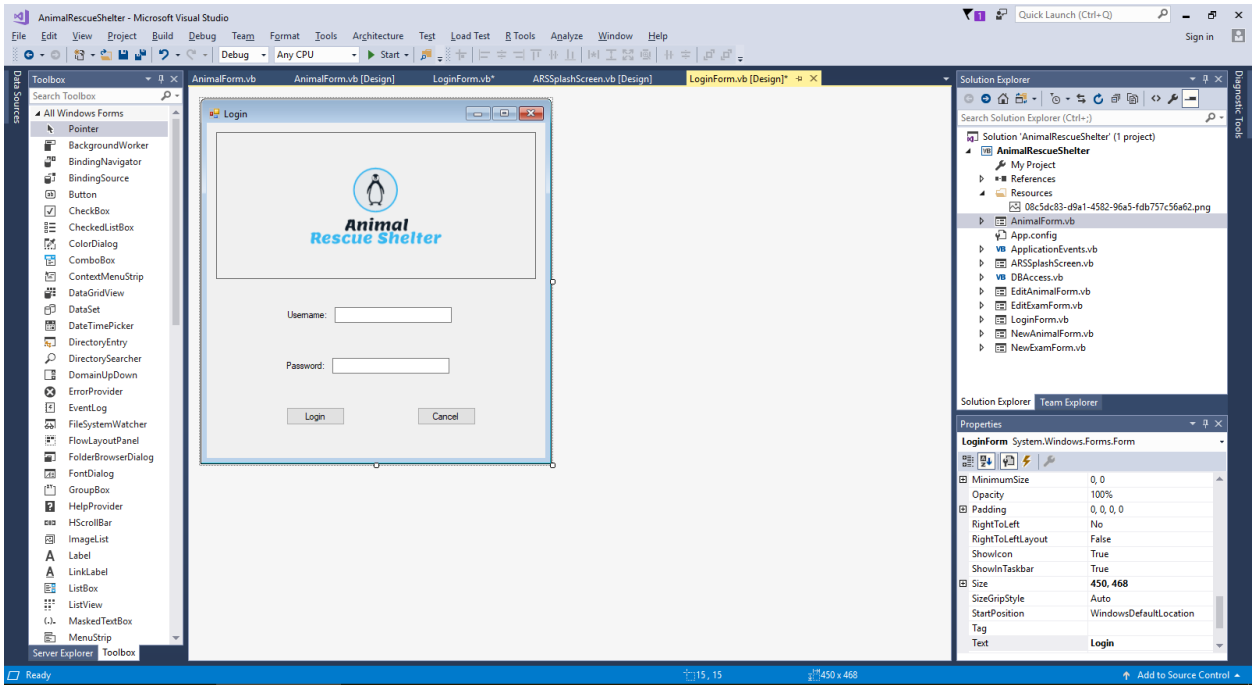
Project Animal Rescue Shelter

1. Design Views

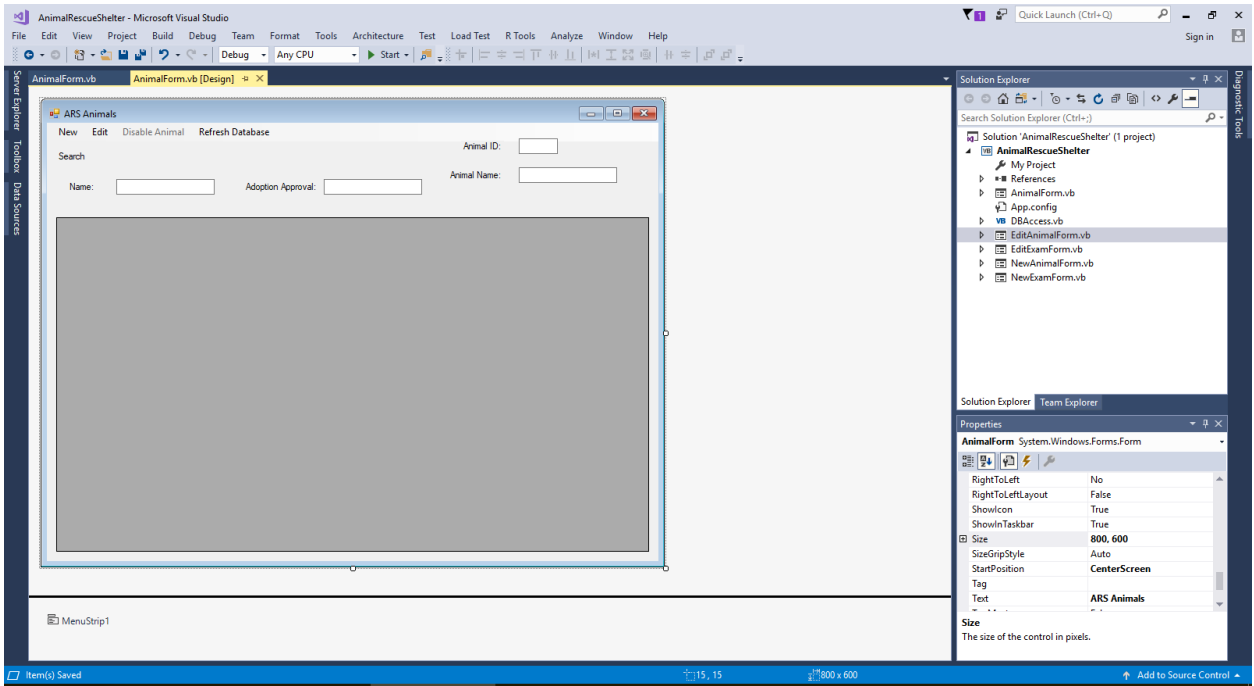
Splash Screen

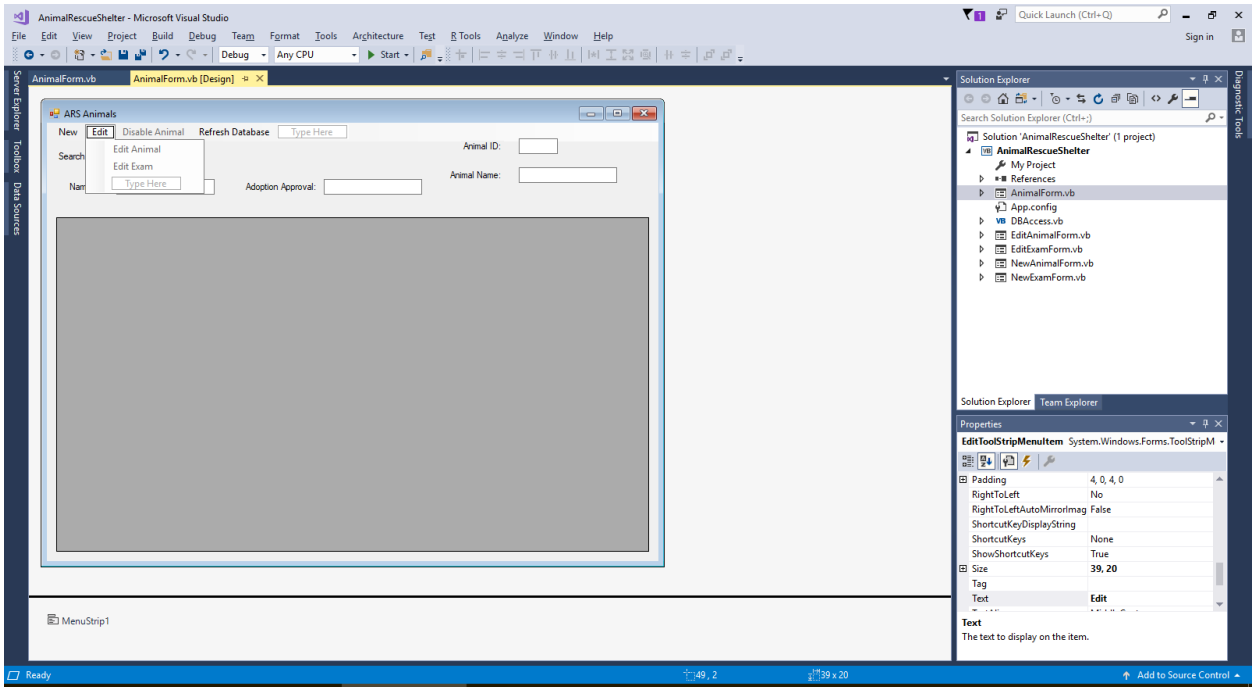
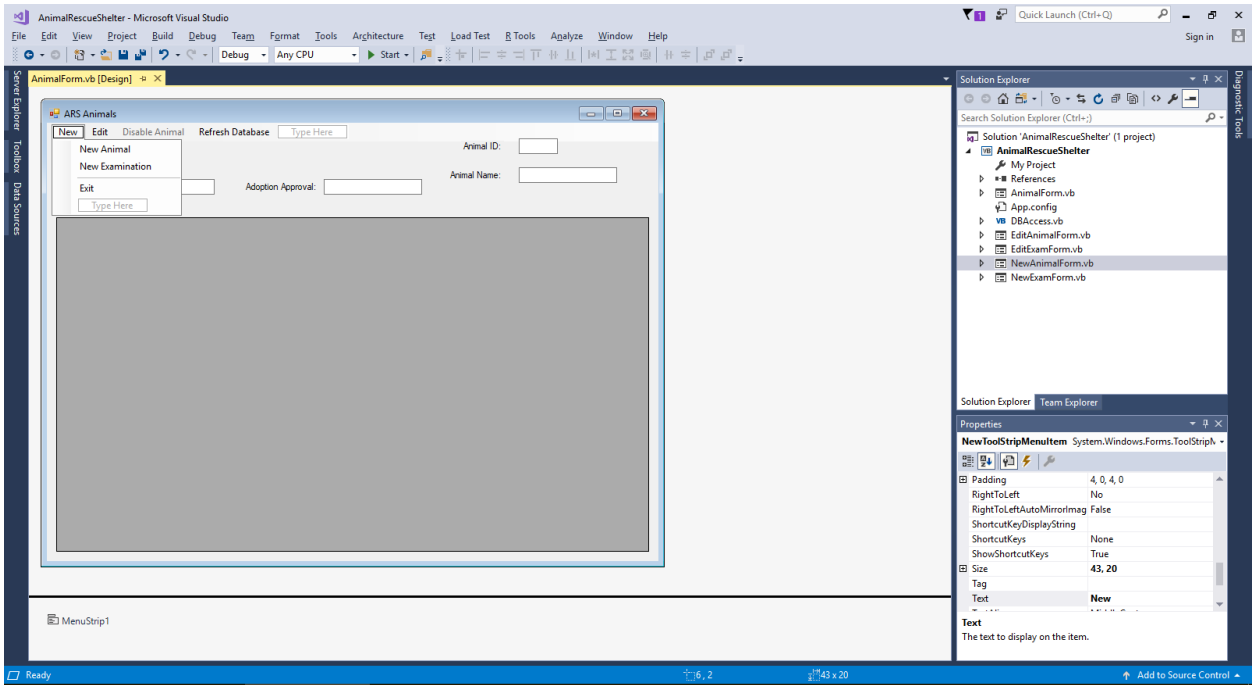


Login

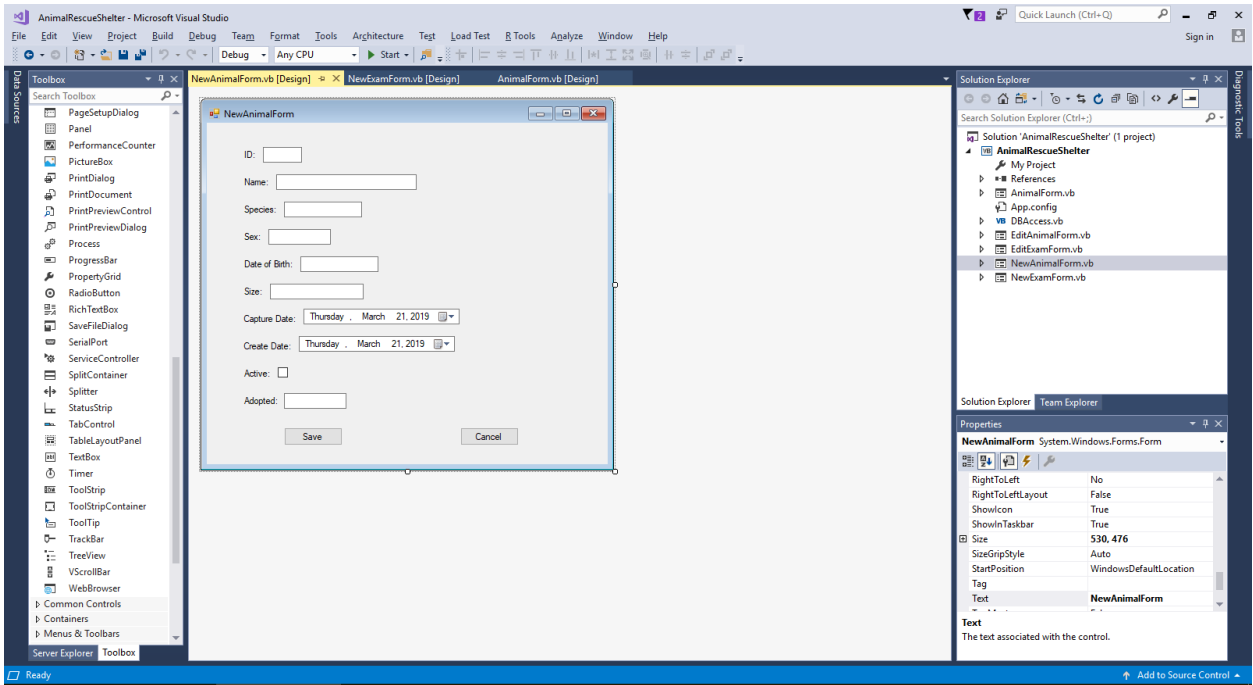


Main Form

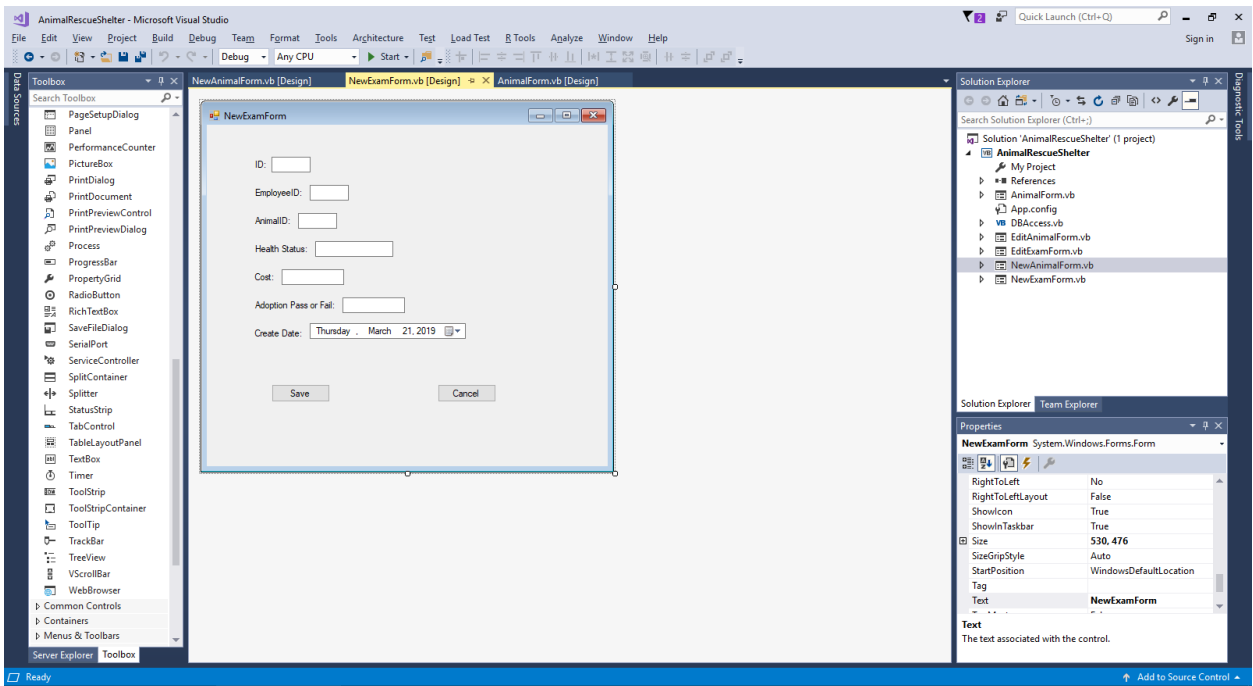




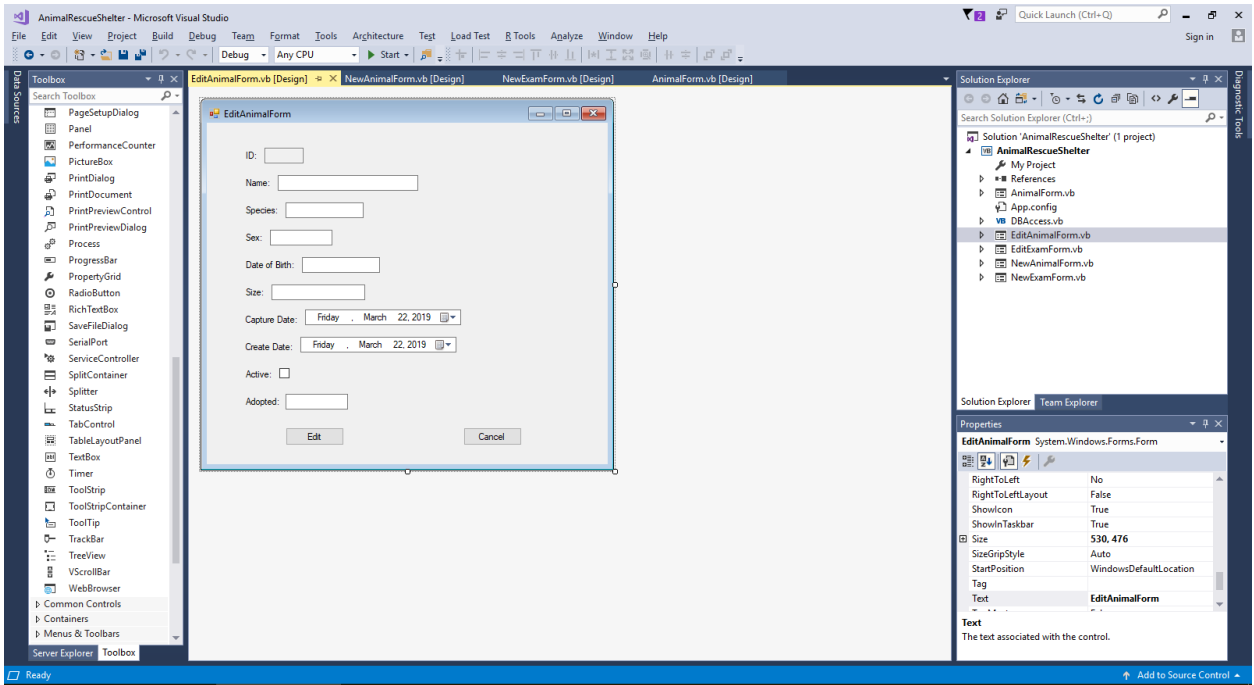
Add Animal Form



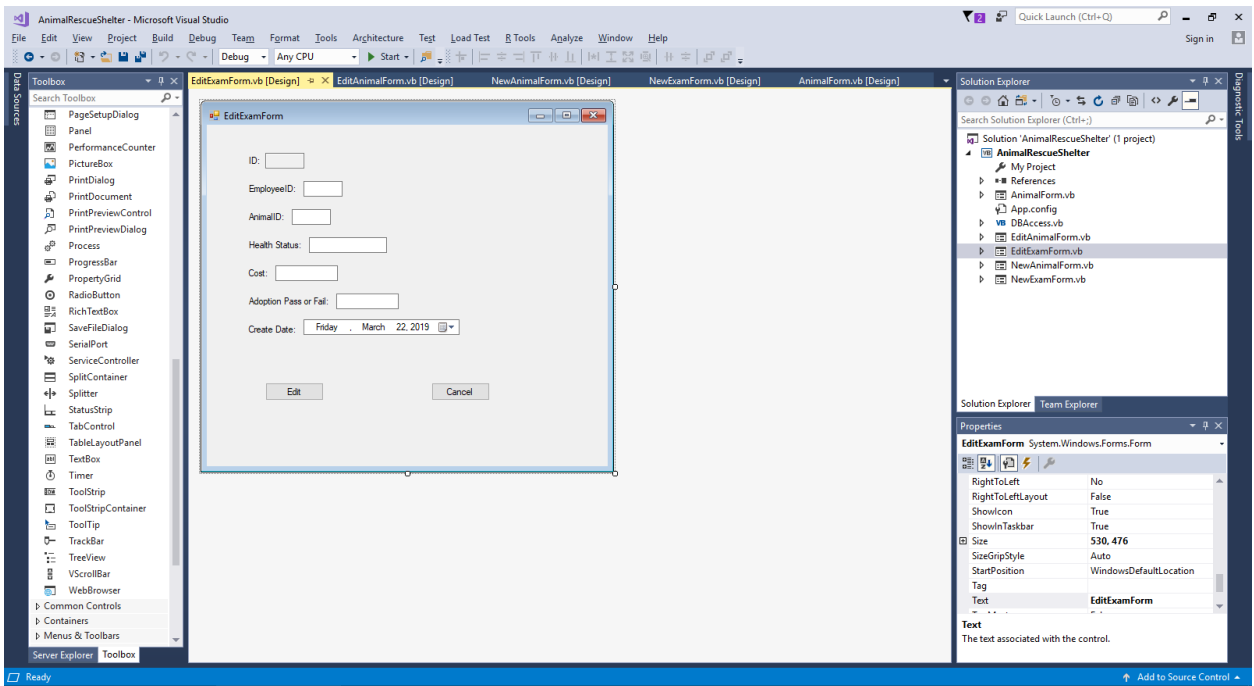
Add Exam Form



Edit Animal Form

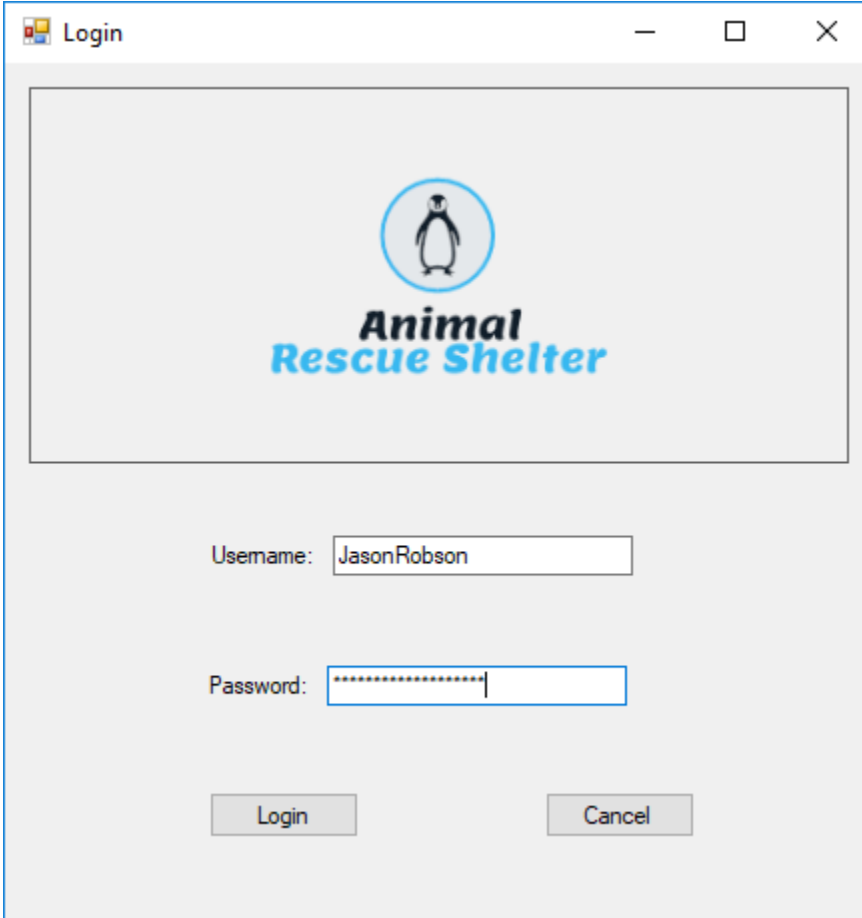


Edit Exam Form



2.

a. Logging in



The image shows a screenshot of a web browser window titled "Login". The window contains the logo for "Animal Rescue Shelter", which features a penguin icon inside a blue circle. Below the logo, there are two input fields: "Username:" with the text "JasonRobson" and "Password:" with a masked password represented by dots. At the bottom of the form, there are two buttons: "Login" and "Cancel".

Animal
Rescue Shelter

Username: JasonRobson

Password:

Login Cancel

b. Search animal by name

ARS Animals

New Edit Disable Animal Refresh Database

Search Animal ID:

Name: Adoption Approval: Animal Name:

ID	Name	Species	Sex	DOB	Size	CaptureDate	ActiveStatus	HealthStatus	Cost	AdoptionPassFail
1	Jack	Dog	Male	1/25/2016	larger than 20lb	1/25/2017	1	Healthy	200.00	Pass

c. Search animal by adoption pass or fail

ARS Animals

New Edit Disable Animal Refresh Database

Search Animal ID:

Name: Adoption Approval: Animal Name:

ID	Name	Species	Sex	DOB	Size	CaptureDate	ActiveStatus	HealthStatus	Cost	AdoptionPassFail
2	Smith	Dog	Male	2/22/2016	larger than 10lb	1/25/2017	1	Healthy	200.00	Fail

d. Adding New Animal

The image shows a web form titled "NewAnimalForm" with the following fields and values:

- ID: 6
- Name: Fluffy
- Species: Dog
- Sex: Female
- Date of Birth: 2018-03-22
- Size: larger than 40lb
- Capture Date: Friday, March 22, 2019
- Create Date: Friday, March 22, 2019
- Active:
- Adopted: No

At the bottom of the form are two buttons: "Save" and "Cancel".

Fluffy currently has no Exam ID and won't show up in the two database search. MySQL confirmation below.

MySQL Workbench

File Edit View Query Database Server Tools Scripting Help

Navigator

MANAGEMENT

- Server Status
- Client Connections
- Users and Privileges
- Status and System Variables
- Data Export
- Data Import/Restore

INSTANCE

- Startup / Shutdown
- Server Logs
- Options File

PERFORMANCE

- Dashboard
- Performance Reports
- Performance Schema Setup

SCHEMAS

Filter objects

bis698f1g6

- Tables
 - adoption
 - animal
 - customer
 - employee

Information

Table: animal

Columns:

ID	Name	Species	Picture	Sex	DOB	Size	CaptureDate	CreateDate	ActiveStatus	Adopted	LastUpdateDate
1	Jack	Dog		Male	2016-01-25	larger than 20lb	2017-01-25	2017-01-25	1	No	2019-03-21 20:57:45
2	Smith	Dog		Male	2016-02-22	larger than 10lb	2017-01-25	2017-01-25	True	No	2017-01-25 00:00:00
3	Cristna	Cat		Female	2016-03-25	larger than 20lb	2017-01-25	2017-01-25	True	No	2017-01-25 00:00:00
4	Linda	Cat		Female	2016-05-29	larger than 20lb	2017-01-25	2017-01-25	True	No	2017-01-25 00:00:00
5	Milo	Cat		Male	2016-07-25	larger than 20lb	2017-01-25	2017-01-25	True	No	2017-01-25 00:00:00
6	Fluffy	Dog		Female	2018-03-22	larger than 40lb	2019-03-22	2019-03-22	1	No	2019-03-21 21:59:35

Query 1

```
SELECT * FROM bis698f1g6.animal;
```

Result Grid

Output

Time Action Message Duration / Fech

1 00:59:50 SELECT * FROM bis698f1g6.animal LIMIT 0, 1000 6 row(s) returned 0.000 sec / 0.000 sec

e. Adding New Exam



NewExamForm



ID:

EmployeeID:

AnimalID:

Health Status:

Cost:

Adoption Pass or Fail:

Create Date:

Save

Cancel

ARS Animals

New Edit Disable Animal Refresh Database

Search

Animal ID:

Name: Adoption Approval:

Animal Name:

	ID	Name	Species	Sex	DOB	Size	CaptureDate	Ac
▶	6	Fluffy	Dog	Female	3/22/2018	larger than 40lb	3/22/2019	1
*								

f. Edit Animal

EditAnimalForm

ID:

Name:

Species:

Sex:

Date of Birth:

Size:

Capture Date:

Create Date:

Active:

Adopted:

EditAnimalForm

ID:

Name:

Species:

Sex:

Date of Birth:

Size:

Capture Date:

Create Date:

Active:

Adopted:

ARS Animals

New Edit Disable Animal Refresh Database

Animal ID:

Search

Name: Adoption Approval: Animal Name:

ID	Name	Species	Sex	DOB	Size	CaptureDate	ActiveStatus	HealthStatus	Cost	AdoptionPassFal
1	Jack	Dog	Male	1/25/2016	larger than 20lb	1/25/2017	0	Healthy	200.00	Pass

g. Edit Exam

The image shows a software window titled "EditExamForm" with standard window controls (minimize, maximize, close). The window contains a form with the following fields:

- ID:
- EmployeeID:
- AnimalID:
- Health Status:
- Cost:
- Adoption Pass or Fail:
- Create Date:

At the bottom of the window, there are two buttons: "Edit" and "Cancel".

ARS Animals

ARS Animals

New Edit Disable Animal Refresh Database

Animal ID:

Search

Name: Adoption Approval: Animal Name:

ID	Name	Species	Sex	DOB	Size	CaptureDate	ActiveStatus	HealthStatus	Cost	AdoptionPassFail
1	Jack	Dog	Male	1/25/2016	larger than 20lb	1/25/2017	1	Healthy	200.00	Fail
2	Smith	Dog	Male	2/22/2016	larger than 10lb	1/25/2017	1	Healthy	200.00	Fail

EditExamForm

ID:

EmployeeID:

AnimalID:

Health Status:

Cost:

Adoption Pass or Fail:

Create Date:

Save

Cancel

ARS Animals

ARS Animals

New Edit Disable Animal Refresh Database

Animal ID:

Search

Name: Adoption Approval: Animal Name:

ID	Name	Species	Sex	DOB	Size	CaptureDate	ActiveStatus	HealthStatus	Cost	AdoptionPassFail
1	Jack	Dog	Male	1/25/2016	larger than 20lb	1/25/2017	1	Healthy	200.00	Fail
2	Smith	Dog	Male	2/22/2016	larger than 10lb	1/25/2017	1	Healthy	200.00	Fail

3. Codes

a. Login

```
'Project: Animal Rescue Shelter  
'Programmer: Jason Robson  
'Date: 03/22/2019  
'Description: Logs the user into the system.
```

```
Public Class LoginForm  
    Private DB As New DBAccess  
  
    Private Sub LoginForm_Load(sender As Object, e As EventArgs) Handles Me.Load  
        Threading.Thread.Sleep(5000)  
    End Sub  
  
    Private Sub LoginButton_Click(sender As Object, e As EventArgs) Handles  
LoginButton.Click  
  
        If String.IsNullOrEmpty(UsernameTextBox.Text) Then  
            MessageBox.Show("Username cannot be empty.")  
            UsernameTextBox.SelectAll()  
            UsernameTextBox.Focus()  
            Exit Sub  
        End If  
  
        If String.IsNullOrEmpty>PasswordTextBox.Text) Then  
            MessageBox.Show("Password cannot be empty")  
            PasswordTextBox.SelectAll()  
            PasswordTextBox.Focus()  
            Exit Sub  
        End If  
  
        DB.AddParam("@Username", UsernameTextBox.Text)  
        DB.AddParam("@Password", PasswordTextBox.Text)
```

```

DB.ExecuteNonQuery("SELECT * FROM employee WHERE Username = ? AND Password = ?")

If DB.Exception <> String.Empty Then
    MessageBox.Show("DB Error:" & DB.Exception)
    Exit Sub
End If

If DB.RecordCount > 0 Then
    UsernameTextBox.Clear()
    PasswordTextBox.Clear()
    Me.Hide()

    If DB.DBDataTable(0)!Role = "Manager" Then
        AnimalForm.ShowDialog()

    ElseIf DB.DBDataTable(0)!Role = "Employee" Then
        MessageBox.Show("Unauthorized Access.", "You Didn't Say The Magic Word!")
        Exit Sub
    End If

Else
    MessageBox.Show("Username and password mismatch.")
    UsernameTextBox.SelectAll()
    UsernameTextBox.Focus()

End If

End Sub

Private Sub CancelButton_Click(sender As Object, e As EventArgs) Handles
CancelButton.Click
    Me.Close()
End Sub
End Class

```

b. Search Form

```

'Project: Animal Rescue Shelter
'Programmer: Jason Robson
'Date: 03/22/2019
'Description: This project searches two databases and disables animal.

```



```

Public Class AnimalForm

    Private DB As New DBAccess
    Private Sub AnimalForm_Load(sender As Object, e As EventArgs) Handles Me.Load
        LoginForm.Close()
        DBDataGridView.ReadOnly = True

        DB.ExecuteQuery("SELECT A.ID, Name, Species, Sex, DOB, Size, CaptureDate,
ActiveStatus, HealthStatus, Cost, AdoptionPassFail FROM animal AS A, exam WHERE A.ID =
exam.AnimalID")

        If DB.Exception <> String.Empty Then
            MessageBox.Show(DB.Exception)
        End If

        DBDataGridView.DataSource = DB.DBDataTable

    End Sub

    Private Sub SearchAnimalbyName(Animal As String)
        DB.AddParam("@Name", Animal & "%")

        DB.ExecuteQuery("SELECT A.ID, Name, Species, Sex, DOB, Size, CaptureDate,
ActiveStatus, HealthStatus, Cost, AdoptionPassFail FROM animal AS A, exam WHERE A.ID =
exam.AnimalID AND Name LIKE ?")

        If DB.Exception <> String.Empty Then
            MessageBox.Show(DB.Exception)
        End If

        DBDataGridView.DataSource = DB.DBDataTable
    End Sub

    Private Sub NameTextBox_KeyUp(sender As Object, e As KeyEventArgs) Handles
NameTextBox.KeyUp
        SearchAnimalbyName(NameTextBox.Text)
        AdoptionApprovalTextBox.Clear()
    End Sub

    Private Sub SearchAdoptionApproval(Approval As String)
        DB.AddParam("@AdoptionPassFail", Approval & "%")

        DB.ExecuteQuery("SELECT A.ID, Name, Species, Sex, DOB, Size, CaptureDate,
ActiveStatus, HealthStatus, Cost, AdoptionPassFail FROM animal AS A, exam WHERE A.ID =
exam.AnimalID AND AdoptionPassFail LIKE ?")

        If DB.Exception <> String.Empty Then
            MessageBox.Show(DB.Exception)
        End If

        DBDataGridView.DataSource = DB.DBDataTable

    End Sub

    Private Sub AdoptionApprovalTextBox_KeyUp(sender As Object, e As KeyEventArgs)
Handles AdoptionApprovalTextBox.KeyUp
        SearchAdoptionApproval(AdoptionApprovalTextBox.Text)
    End Sub

```

```

        NameTextBox.Clear()
    End Sub

    Private Sub NewAnimalToolStripMenuItem_Click(sender As Object, e As EventArgs)
Handles NewAnimalToolStripMenuItem.Click
        NewAnimalForm.Show()
    End Sub

    Private Sub NewExaminationToolStripMenuItem_Click(sender As Object, e As EventArgs)
Handles NewExaminationToolStripMenuItem.Click
        NewExamForm.Show()
    End Sub

    Private Sub DBDataGridView_CellClick(sender As Object, e As
DataGridViewCellEventArgs) Handles DBDataGridView.CellClick
        If e.ColumnIndex < 0 Or e.RowIndex < 0 Then
            Exit Sub
        End If

        SelectAnimal(DBDataGridView.Item(1, e.RowIndex).Value)
    End Sub

    Private Sub SelectAnimal(AnimalName As String)

        DB.AddParameter("@Name", AnimalName)
        DB.ExecuteQuery("SELECT A.ID, Name FROM animal AS A, exam WHERE A.ID =
exam.AnimalID AND Name = ?")

        If DB.Exception <> String.Empty Then
            MessageBox.Show(DB.Exception)
        End If

        Dim SearchedRow As DataRow = DB.DBDataTable.Rows(0)
        AnimalIDTextBox.Text = SearchedRow!ID.ToString
        AnimalNameTextBox.Text = SearchedRow!Name.ToString

        EditAnimalToolStripMenuItem.Enabled = True
        EditExaminationToolStripMenuItem.Enabled = True
        DisableAnimalToolStripMenuItem.Enabled = True

    End Sub

    Private Sub DisableAnimal()
        If MessageBox.Show("Are you sure you want to disable the selected animal?",
"Disable Confirm", MessageBoxButtons.YesNo, MessageBoxIcon.Question) = DialogResult.No
Then
            Exit Sub
        End If

        DB.AddParameter("@ID", AnimalIDTextBox.Text)
        DB.ExecuteQuery("UPDATE animal SET ActiveStatus=False WHERE ID=?")

        If DB.Exception <> String.Empty Then
            MessageBox.Show(DB.Exception)
            Exit Sub
        End If
    End Sub

```

```

        MessageBox.Show("The selected animal has been disabled successfully from the
database.", "Disable Successful", MessageBoxButtons.OK, MessageBoxIcon.Exclamation)
        AnimalIDTextBox.Clear()
        AnimalNameTextBox.Clear()
        DisableAnimalToolStripMenuItem.Enabled = False
        RefreshDBDataGridView()
    End Sub

    Private Sub RefreshDBDataGridView()
        DB.ExecuteQuery("SELECT A.ID, Name, Species, Sex, DOB, Size, CaptureDate,
ActiveStatus, HealthStatus, Cost, AdoptionPassFail FROM animal AS A, exam WHERE A.ID =
exam.AnimalID")
        If DB.Exception <> String.Empty Then
            MessageBox.Show(DB.Exception)
            Exit Sub
        End If

        DBDataGridView.DataSource = DB.DBDataTable
    End Sub

    Private Sub ExitToolStripMenuItem_Click(sender As Object, e As EventArgs) Handles
ExitToolStripMenuItem.Click
        Me.Close()
    End Sub

    Private Sub EditAnimalToolStripMenuItem_Click(sender As Object, e As EventArgs)
Handles EditAnimalToolStripMenuItem.Click
        EditAnimalForm.Show()
    End Sub

    Private Sub EditExaminationToolStripMenuItem_Click(sender As Object, e As EventArgs)
Handles EditExaminationToolStripMenuItem.Click
        EditExamForm.Show()
    End Sub

    Private Sub AnimalAdoptedToolStripMenuItem_Click(sender As Object, e As EventArgs)
Handles DisableAnimalToolStripMenuItem.Click
        DisableAnimal()
    End Sub

    Private Sub RefreshDatabaseToolStripMenuItem_Click(sender As Object, e As EventArgs)
Handles RefreshDatabaseToolStripMenuItem.Click
        RefreshDBDataGridView()
    End Sub
End Class

```

c. New Animal

```

'Project: Animal Rescue Shelter
'Programmer: Jason Robson
'Date: 03/22/2019
'Description: This project adds new animal.

```

```

Public Class NewAnimalForm
    Private DB As New DBAccess

    Private Sub AddAnimal()

        If String.IsNullOrEmpty(IDTextBox.Text) Then
            MessageBox.Show("Animal ID cannot be empty.")
            IDTextBox.SelectAll()
            IDTextBox.Focus()
            Exit Sub
        End If

        Dim AnimalID As Integer
        If Integer.TryParse(IDTextBox.Text, AnimalID) = False Then
            MessageBox.Show("Animal ID cannot be empty.")
            IDTextBox.SelectAll()
            IDTextBox.Focus()
            Exit Sub
        End If

        If AnimalID < 0 Then
            MessageBox.Show("Animal ID has to be zero or greater.")
            IDTextBox.SelectAll()
            IDTextBox.Focus()
            Exit Sub
        End If

        If String.IsNullOrEmpty(NameTextBox.Text) Then
            MessageBox.Show("Animal name cannot be empty.")
            NameTextBox.SelectAll()
            NameTextBox.Focus()
            Exit Sub
        End If

        If String.IsNullOrEmpty(SpeciesTextBox.Text) Then
            MessageBox.Show("Specie cannot be empty.")
            SpeciesTextBox.SelectAll()
            SpeciesTextBox.Focus()
            Exit Sub
        End If

        If String.IsNullOrEmpty(SexTextBox.Text) Then
            MessageBox.Show("Sex cannot be empty.")
            SexTextBox.SelectAll()
            SexTextBox.Focus()
            Exit Sub
        End If

        If ActiveCheckBox.Checked = False Then
            MessageBox.Show("New animal should be active.")
            ActiveCheckBox.Focus()
            Exit Sub
        End If
    End Sub
End Class

```

```

If String.IsNullOrEmpty(AdoptedTextBox.Text) Then
    MessageBox.Show("Adoption status cannot be empty.")
    AdoptedTextBox.SelectAll()
    AdoptedTextBox.Focus()
Exit Sub
End If

'add parameters

DB.AddParameter("@ID", IDTextBox.Text)
DB.AddParameter("@Name", NameTextBox.Text)
DB.AddParameter("@Species", SpeciesTextBox.Text)
DB.AddParameter("@Sex", SexTextBox.Text)
DB.AddParameter("@DOB", DateOfBirthTextBox.Text)
DB.AddParameter("@Size", SizeTextBox.Text)
DB.AddParameter("@CaptureDate", CaptureDateTimePicker.Value)
DB.AddParameter("@CreateDate", CreateDateTimePicker.Value)
DB.AddParameter("@ActiveStatus", ActiveCheckBox.Checked)
DB.AddParameter("@Adopted", AdoptedTextBox.Text)

DB.ExecuteNonQuery("INSERT INTO animal(ID, Name, Species, Sex, DOB, Size,
CaptureDate, CreateDate, ActiveStatus, Adopted)" & "VALUES(?, ?, ?, ?, ?, ?, ?, ?, ?,
?)")

If Not String.IsNullOrEmpty(DB.Exception) Then
    MessageBox.Show(DB.Exception)
Exit Sub
End If

'success
MessageBox.Show("A new animal has been added")

Me.Close()

End Sub

Private Sub SaveButton_Click(sender As Object, e As EventArgs) Handles
SaveButton.Click
    AddAnimal()
End Sub

Private Sub CancelButton_Click(sender As Object, e As EventArgs) Handles
CancelButton.Click
    Me.Close()
End Sub
End Class

```

d. New Exam

```
'Project: Animal Rescue Shelter  
'Programmer: Jason Robson  
'Date: 03/22/2019  
'Description: This project adds new exam.
```

```
Public Class NewExamForm  
    Private DB As New DBAccess  
    Private Sub AddExam()  
  
        If String.IsNullOrEmpty(IDTextBox.Text) Then  
            MessageBox.Show("Exam ID cannot be empty.")  
            IDTextBox.SelectAll()  
            IDTextBox.Focus()  
            Exit Sub  
        End If  
  
        Dim ExamID As Integer  
        If Integer.TryParse(IDTextBox.Text, ExamID) = False Then  
            MessageBox.Show("Exam ID cannot be empty.")  
            IDTextBox.SelectAll()  
            IDTextBox.Focus()  
            Exit Sub  
        End If  
  
        If ExamID < 0 Then  
            MessageBox.Show("Exam ID has to be zero or greater.")  
            IDTextBox.SelectAll()  
            IDTextBox.Focus()  
            Exit Sub  
        End If  
  
        If String.IsNullOrEmpty(EmployeeIDTextBox.Text) Then  
            MessageBox.Show("Employee ID cannot be empty.")  
            EmployeeIDTextBox.SelectAll()  
            EmployeeIDTextBox.Focus()  
            Exit Sub  
        End If  
  
        Dim EmployeeID As Integer  
        If Integer.TryParse(EmployeeIDTextBox.Text, EmployeeID) = False Then  
            MessageBox.Show("Employee ID cannot be empty.")  
            EmployeeIDTextBox.SelectAll()  
            EmployeeIDTextBox.Focus()  
            Exit Sub  
        End If  
  
        If EmployeeID < 0 Then
```

```

        MessageBox.Show("Employee ID has to be zero or greater.")
        EmployeeIDTextBox.SelectAll()
        EmployeeIDTextBox.Focus()
    Exit Sub
End If

If String.IsNullOrEmpty(AnimalIDTextBox.Text) Then
    MessageBox.Show("Animal ID cannot be empty.")
    AnimalIDTextBox.SelectAll()
    AnimalIDTextBox.Focus()
    Exit Sub
End If

Dim AnimalID As Integer
If Integer.TryParse(AnimalIDTextBox.Text, AnimalID) = False Then
    MessageBox.Show("Animal ID cannot be empty.")
    AnimalIDTextBox.SelectAll()
    AnimalIDTextBox.Focus()
    Exit Sub
End If

If AnimalID < 0 Then
    MessageBox.Show("Animal ID has to be zero or greater.")
    AnimalIDTextBox.SelectAll()
    AnimalIDTextBox.Focus()
    Exit Sub
End If

If String.IsNullOrEmpty(HealthStatusTextBox.Text) Then
    MessageBox.Show("Health status cannot be empty.")
    HealthStatusTextBox.SelectAll()
    HealthStatusTextBox.Focus()
    Exit Sub
End If

If String.IsNullOrEmpty(CostTextBox.Text) Then
    MessageBox.Show("Cost cannot be empty.")
    CostTextBox.SelectAll()
    CostTextBox.Focus()
    Exit Sub
End If

Dim Cost As Decimal
If Decimal.TryParse(CostTextBox.Text, Cost) = False Then
    MessageBox.Show("Cost cannot be empty.")
    CostTextBox.SelectAll()
    CostTextBox.Focus()
    Exit Sub
End If

If String.IsNullOrEmpty(AdoptionPassFailTextBox.Text) Then
    MessageBox.Show("Adoption pass or fail cannot be empty.")
    AdoptionPassFailTextBox.SelectAll()
    AdoptionPassFailTextBox.Focus()
    Exit Sub
End If

```

```

'add parameters

DB.AddParam("@ID", IDTextBox.Text)
DB.AddParam("@EmployeeID", EmployeeIDTextBox.Text)
DB.AddParam("@AnimalID", AnimalIDTextBox.Text)
DB.AddParam("@HealthStatus", HealthStatusTextBox.Text)
DB.AddParam("@Cost", CostTextBox.Text)
DB.AddParam("@AdoptionPassFail", AdoptionPassFailTextBox.Text)
DB.AddParam("@CreateDate", CreateDateTimePicker.Value)

DB.ExecuteNonQuery("INSERT INTO exam(ID, EmployeeID, AnimalID, HealthStatus, Cost,
AdoptionPassFail, CreateDate)" & "VALUES(?, ?, ?, ?, ?, ?, ?)")

If Not String.IsNullOrEmpty(DB.Exception) Then
    MessageBox.Show(DB.Exception)
Exit Sub
End If

'success
MessageBox.Show("A new exam has been added")

Me.Close()
End Sub

Private Sub CancelButton_Click(sender As Object, e As EventArgs) Handles
CancelButton.Click
    Me.Close()
End Sub

Private Sub SaveButton_Click(sender As Object, e As EventArgs) Handles
SaveButton.Click
    AddExam()
End Sub
End Class

```

e. Edit Animal

```

'Project: Animal Rescue Shelter
'Programmer: Jason Robson
'Date: 03/22/2019
'Description: This project edits animal.

```



```

Public Class EditAnimalForm
    Private DB As New DBAccess

    Private Sub EditAnimalForm_Load(sender As Object, e As EventArgs) Handles Me.Load
        If String.IsNullOrEmpty(AnimalForm.AnimalIDTextBox.Text) Then
            Exit Sub
        End If

        DB.AddParam("@ID", AnimalForm.AnimalIDTextBox.Text)
        DB.ExecuteQuery("SELECT ID, Name, Species, Sex, DOB, Size, CaptureDate,
CreateDate, ActiveStatus, Adopted FROM animal WHERE ID = ?")
        If DB.Exception <> String.Empty Then
            Exit Sub
        End If

        IDTextBox.Text = DB.DBDataTable(0)!ID
        NameTextBox.Text = DB.DBDataTable(0)!Name
        SpeciesTextBox.Text = DB.DBDataTable(0)!Species
        SexTextBox.Text = DB.DBDataTable(0)!Sex
        DateofBirthTextBox.Text = DB.DBDataTable(0)!DOB
        SizeTextBox.Text = DB.DBDataTable(0)!Size
        CaptureDateTimePicker.Value = DB.DBDataTable(0)!CaptureDate
        CreateDateTimePicker.Value = DB.DBDataTable(0)!CreateDate
        ActiveCheckBox.Checked = DB.DBDataTable(0)!ActiveStatus
        AdoptedTextBox.Text = DB.DBDataTable(0)!Adopted

    End Sub

    Private Sub CancelButton_Click(sender As Object, e As EventArgs) Handles
CancelButton.Click
        Me.Close()
    End Sub

    Private Sub EnableFieldsSwitch(Switch As Boolean)

        NameTextBox.Enabled = Switch
        SpeciesTextBox.Enabled = Switch
        SexTextBox.Enabled = Switch
        DateofBirthTextBox.Enabled = Switch
        SizeTextBox.Enabled = Switch
        CaptureDateTimePicker.Enabled = Switch
        CreateDateTimePicker.Enabled = Switch
        ActiveCheckBox.Enabled = Switch
        AdoptedTextBox.Enabled = Switch

    End Sub

    Private Sub EditSaveButton_Click(sender As Object, e As EventArgs) Handles
EditSaveButton.Click

        If EditSaveButton.Text = "Edit" Then
            EnableFieldsSwitch(True)
            EditSaveButton.Text = "Save"

        Else

```

```

If String.IsNullOrEmpty(NameTextBox.Text) Then
    MessageBox.Show("Animal name cannot be empty.")
    NameTextBox.SelectAll()
    NameTextBox.Focus()
Exit Sub
End If

If String.IsNullOrEmpty(SpeciesTextBox.Text) Then
    MessageBox.Show("Specie cannot be empty.")
    SpeciesTextBox.SelectAll()
    SpeciesTextBox.Focus()
Exit Sub
End If

If String.IsNullOrEmpty(SexTextBox.Text) Then
    MessageBox.Show("Sex cannot be empty.")
    SexTextBox.SelectAll()
    SexTextBox.Focus()
Exit Sub
End If

If String.IsNullOrEmpty(AdoptedTextBox.Text) Then
    MessageBox.Show("Adoption status cannot be empty.")
    AdoptedTextBox.SelectAll()
    AdoptedTextBox.Focus()
Exit Sub
End If

DB.AddParam("@Name", NameTextBox.Text)
DB.AddParam("@Species", SpeciesTextBox.Text)
DB.AddParam("@Sex", SexTextBox.Text)
DB.AddParam("@DOB", DateofBirthTextBox.Text)
DB.AddParam("@Size", SizeTextBox.Text)
DB.AddParam("@CaptureDate", CaptureDateTimePicker.Value)
DB.AddParam("@CreateDate", CreateDateTimePicker.Value)
DB.AddParam("@ActiveStatus", ActiveCheckBox.Checked)
DB.AddParam("@Adopted", AdoptedTextBox.Text)

DB.AddParam("@ID", IDTextBox.Text)

DB.ExecuteQuery("UPDATE animal SET Name=?, Species=?, Sex=?, DOB=?, Size=?,
CaptureDate=?, CreateDate=?, ActiveStatus=?, Adopted=? WHERE ID=?")
If DB.Exception <> String.Empty Then
    MessageBox.Show(DB.Exception)
Else
    MessageBox.Show("The animal record has been updated successfully.")
End If

EditSaveButton.Text = "Edit"

```

```
        EnableFieldsSwitch(False)
    End If
End Sub
End Class
```

f. Edit Exam

```
'Project: Animal Rescue Shelter
'Programmer: Jason Robson
'Date: 03/22/2019
'Description: This project edits exam.
```

```
Public Class EditExamForm

    Private DB As New DBAccess
    Private Sub EditExamForm_Load(sender As Object, e As EventArgs) Handles Me.Load
        If String.IsNullOrEmpty(AnimalForm.AnimalIDTextBox.Text) Then
            Exit Sub
        End If

        DB.AddParameter("@AnimalID", AnimalForm.AnimalIDTextBox.Text)
        DB.ExecuteQuery("SELECT ID, EmployeeID, AnimalID, HealthStatus, Cost,
AdoptionPassFail, CreateDate FROM exam WHERE ID = ?")
        If DB.Exception <> String.Empty Then
            Exit Sub
        End If

        IDTextBox.Text = DB.DBDataTable(0)!ID
        EmployeeIDTextBox.Text = DB.DBDataTable(0)!EmployeeID
        AnimalIDTextBox.Text = DB.DBDataTable(0)!AnimalID
        HealthStatusTextBox.Text = DB.DBDataTable(0)!HealthStatus
        CostTextBox.Text = DB.DBDataTable(0)!Cost
        AdoptionPassFailTextBox.Text = DB.DBDataTable(0)!AdoptionPassFail
        CreateDateTimePicker.Value = DB.DBDataTable(0)!CreateDate

    End Sub
```

```

Private Sub CancelButton_Click(sender As Object, e As EventArgs) Handles
CancelButton.Click
    Me.Close()
End Sub

Private Sub EnableFieldsSwitch(Switch As Boolean)

    EmployeeIDTextBox.Enabled = Switch
    AnimalIDTextBox.Enabled = Switch
    HealthStatusTextBox.Enabled = Switch
    CostTextBox.Enabled = Switch
    AdoptionPassFailTextBox.Enabled = Switch
    CreateDateTimePicker.Enabled = Switch

End Sub

Private Sub EditSaveButton_Click(sender As Object, e As EventArgs) Handles
EditSaveButton.Click

    If EditSaveButton.Text = "Edit" Then
        EnableFieldsSwitch(True)
        EditSaveButton.Text = "Save"
    Else

        If String.IsNullOrEmpty(EmployeeIDTextBox.Text) Then
            MessageBox.Show("Employee ID cannot be empty.")
            EmployeeIDTextBox.SelectAll()
            EmployeeIDTextBox.Focus()
            Exit Sub
        End If

        Dim EmployeeID As Integer
        If Integer.TryParse(EmployeeIDTextBox.Text, EmployeeID) = False Then
            MessageBox.Show("Employee ID cannot be empty.")
            EmployeeIDTextBox.SelectAll()
            EmployeeIDTextBox.Focus()
            Exit Sub
        End If

        If EmployeeID < 0 Then
            MessageBox.Show("Employee ID has to be zero or greater.")
            EmployeeIDTextBox.SelectAll()
            EmployeeIDTextBox.Focus()
            Exit Sub
        End If

        If String.IsNullOrEmpty(AnimalIDTextBox.Text) Then
            MessageBox.Show("Animal ID cannot be empty.")
            AnimalIDTextBox.SelectAll()
            AnimalIDTextBox.Focus()
            Exit Sub
        End If

        Dim AnimalID As Integer
        If Integer.TryParse(AnimalIDTextBox.Text, AnimalID) = False Then
            MessageBox.Show("Animal ID cannot be empty.")

```

```

        AnimalIDTextBox.SelectAll()
        AnimalIDTextBox.Focus()
    Exit Sub
End If

If AnimalID < 0 Then
    MessageBox.Show("Animal ID has to be zero or greater.")
    AnimalIDTextBox.SelectAll()
    AnimalIDTextBox.Focus()
    Exit Sub
End If

If String.IsNullOrEmpty(HealthStatusTextBox.Text) Then
    MessageBox.Show("Health status cannot be empty.")
    HealthStatusTextBox.SelectAll()
    HealthStatusTextBox.Focus()
    Exit Sub
End If

If String.IsNullOrEmpty(CostTextBox.Text) Then
    MessageBox.Show("Cost cannot be empty.")
    CostTextBox.SelectAll()
    CostTextBox.Focus()
    Exit Sub
End If

Dim Cost As Decimal
If Decimal.TryParse(CostTextBox.Text, Cost) = False Then
    MessageBox.Show("Cost cannot be empty.")
    CostTextBox.SelectAll()
    CostTextBox.Focus()
    Exit Sub
End If

If String.IsNullOrEmpty(AdoptionPassFailTextBox.Text) Then
    MessageBox.Show("Adoption pass or fail cannot be empty.")
    AdoptionPassFailTextBox.SelectAll()
    AdoptionPassFailTextBox.Focus()
    Exit Sub
End If

DB.AddParam("@EmployeeID", EmployeeIDTextBox.Text)
DB.AddParam("@AnimalID", AnimalIDTextBox.Text)
DB.AddParam("@HealthStatus", HealthStatusTextBox.Text)
DB.AddParam("@Cost", CostTextBox.Text)
DB.AddParam("@AdoptionPassFail", AdoptionPassFailTextBox.Text)
DB.AddParam("@CreateDate", CreateDateTimePicker.Value)

DB.AddParam("@ID", IDTextBox.Text)

DB.ExecuteQuery("UPDATE exam SET EmployeeID=?, AnimalID=?, HealthStatus=?,
Cost=?, AdoptionPassFail=?, CreateDate=? WHERE ID=?")

If DB.Exception <> String.Empty Then
    MessageBox.Show(DB.Exception)
Else

```

```
        MessageBox.Show("The exam record has been updated successfully.")  
    End If
```

```
    EditSaveButton.Text = "Edit"  
    EnableFieldsSwitch(False)
```

```
End If
```

```
End Sub  
End Class
```