

RBAC:

Changes done in schema are as follows:

```
CREATE TABLE ROLE_t (  
    Role_Id INT PRIMARY KEY,  
    Role_Name VARCHAR(20) NOT NULL  
);
```

```
INSERT INTO ROLE_t VALUES  
(1, 'Customer'),  
(2, 'Employee');
```

In customer table two additional fields(email and password) were added and for all already existed customers we added ourselves:

```
CREATE TABLE CUSTOMER_t (  
    Customer_Id INT PRIMARY KEY,  
    Customer_Name VARCHAR(25),  
    Customer_Address VARCHAR(30),  
    Customer_City VARCHAR(20),  
    Customer_State CHAR(2),  
    Postal_Code VARCHAR(10),  
    Email VARCHAR(50) UNIQUE NOT NULL,  
    User_Password VARCHAR(100) NOT NULL,  
    Role_Id INT NOT NULL DEFAULT 1, -- 1 = Customer  
    FOREIGN KEY (Role_Id) REFERENCES ROLE_t(Role_Id)  
);
```

```
INSERT INTO CUSTOMER_t VALUES  
(1,'Contemporary Casuals','1355 S Hines  
Blvd','Gainesville','FL','32601','cust1@gmail.com','pass123',1),  
(2,'Value Furniture','15145 SW 17th  
St','Plano','TX','75094','cust2@gmail.com','pass123',1),  
(3,'Home Furnishings','1900 Allard  
Ave','Albany','NY','12209','cust3@gmail.com','pass123',1),  
(4,'Eastern Furniture','1925 Beltline  
Rd','Carteret','NJ','07008','cust4@gmail.com','pass123',1),  
(5,'Impressions','5585 Westcott  
Ct','Sacramento','CA','94206','cust5@gmail.com','pass123',1),  
(6,'Furniture Gallery','325 Flatiron  
Dr','Boulder','CO','80514','cust6@gmail.com','pass123',1),
```

```
(7,'Period Furniture','394 Rainbow
Dr','Seattle','WA','97954','cust7@gmail.com','pass123',1),
(8,'California Classics','816 Peach Rd','Santa
Clara','CA','96915','cust8@gmail.com','pass123',1),
(9,'M and H Casual Furniture','3709 First
Street','Clearwater','FL','34620','cust9@gmail.com','pass123',1),
(10,'Seminole Interiors','2400 Rocky Point
Dr','Seminole','FL','34646','cust10@gmail.com','pass123',1);
```

Employee table was also altered:

```
ALTER TABLE EMPLOYEE_t ADD User_Password VARCHAR(100) NULL;
UPDATE EMPLOYEE_t SET User_Password = 'passE01' WHERE Employee_Id =
'E01';
UPDATE EMPLOYEE_t SET User_Password = 'passE02' WHERE Employee_Id =
'E02';
ALTER TABLE EMPLOYEE_t ALTER COLUMN User_Password VARCHAR(100) NOT
NULL;
```

Then controls were granted by creating another page_access_table:

```
CREATE TABLE PAGE_ACCESS_t (
    Role_Id INT NOT NULL,
    Page_Name VARCHAR(100) NOT NULL,
    PRIMARY KEY (Role_Id, Page_Name),
    FOREIGN KEY (Role_Id) REFERENCES ROLE_t(Role_Id)
);
```

```
INSERT INTO PAGE_ACCESS_t VALUES
```

```
-- Customer pages
```

```
(1, 'Main.aspx'),
```

```
(1, 'Search.aspx'),
```

```
(1, 'Cart.aspx'),
```

```
(1, 'Payment.aspx'),
```

```
(1, 'Register.aspx'),
```

```
(1, 'Help.aspx'),
```

```
-- Employee pages
```

```
(2, 'Main.aspx'),
```

```
(2, 'Update_Catalog.aspx'),
```

(2, 'Update_Customer.aspx'),
(2, 'Employee_Dashboard.aspx');

Login Choice:

.aspx

```
<%@ Page Language="VB" AutoEventWireup="true" CodeFile="LoginChoice.aspx.vb" Inherits="LoginChoice" %>

<!DOCTYPE html>
<html>
<head runat="server">
  <title>Login Choice</title>
  <link rel="stylesheet" href="style.css" />
</head>
<body>
<form id="form1" runat="server">

<div class="container">
  <h2>Login As</h2>

  <asp:Button ID="btnEmployee" runat="server" Text="Employee" CssClass="btn" OnClick="btnEmployee_Click" />
  <br /><br />

  <asp:Button ID="btnCustomer" runat="server" Text="Customer" CssClass="btn" OnClick="btnCustomer_Click" />
</div>

</form>
</body>
</html>

>
```

.vb:

```
Partial Class LoginChoice
  Inherits System.Web.UI.Page

  Protected Sub btnEmployee_Click(sender As Object, e As EventArgs)
    Response.Redirect("EmployeeLogin.aspx")
  End Sub

  Protected Sub btnCustomer_Click(sender As Object, e As EventArgs)
    Response.Redirect("index.aspx") ' MAIN CUSTOMER WEBSITE
  End Sub
End Class
```

EmployeeLogin

Aspx

```
<%@ Page Language="VB" AutoEventWireup="true" CodeFile="EmployeeLogin.aspx.vb" Inherits="EmployeeLogin"
%>
<!DOCTYPE html>
<html>
<head runat="server">
  <title>Employee Login</title>
  <link rel="stylesheet" href="style.css" />
</head>
<body>
<form id="form1" runat="server">
  <div class="auth-box">
    <h2>Employee Login</h2>
    <asp:TextBox ID="txtEmpID" runat="server" Placeholder="Employee ID"></asp:TextBox>
    <asp:TextBox ID="txtPassword" runat="server" TextMode="Password" Placeholder="Password"></asp:TextBox>
    <asp:Button ID="btnLogin" runat="server" Text="Login" CssClass="btn" OnClick="btnLogin_Click" />
    <br />
    <asp:Label ID="lblMsg" runat="server" ForeColor="Red"></asp:Label>
  </div>
</form>
</body>
</html>
```

.vb

```
Imports System.Data.SqlClient
Imports System.Configuration
```

```
Partial Class EmployeeLogin
  Inherits System.Web.UI.Page
```

```
  Dim connStr As String = ConfigurationManager.ConnectionStrings("PVFCCConnectionString").ConnectionString
```

```
  Protected Sub btnLogin_Click(sender As Object, e As EventArgs) Handles btnLogin.Click
```

```
    Using conn As New SqlConnection(connStr)
```

```
      Dim query As String = "SELECT Employee_Id, Employee_Name FROM EMPLOYEE_t WHERE Employee_Id
= @EmpID AND User_Password = @Password"
```

```
      Using cmd As New SqlCommand(query, conn)
```

```
        cmd.Parameters.AddWithValue("@EmpID", txtEmpID.Text.Trim())
```

```
        cmd.Parameters.AddWithValue("@Password", txtPassword.Text.Trim())
```

```
      Try
```

```
        conn.Open()
```

```
        Dim reader As SqlDataReader = cmd.ExecuteReader()
```

```
        If reader.Read() Then
```

```
          Session("Employee_Id") = reader("Employee_Id")
```

```
          Session("Employee_Name") = reader("Employee_Name")
```

```
          Session("Role") = "Employee"
```

```
          Response.Redirect("employee_dashboard.aspx")
```

```
        Else
```

```
          lblMsg.Text = "Invalid Employee ID or Password."
```

```
        End If
```

```

        Catch ex As Exception
            lblMsg.Text = "Error: " & ex.Message
        End Try
    End Using
End Using
End Sub
End Class

```

EmployeeDashboard:

Aspx:

```

<%@ Page Language="VB" AutoEventWireup="true" CodeFile="employee_dashboard.aspx.vb"
Inherits="employee_dashboard" %>

```

```

<!DOCTYPE html>
<html>
<head runat="server">
    <title>Employee Dashboard</title>
    <link rel="stylesheet" href="style.css" />
</head>
<body>
    <form id="form1" runat="server">

        <header>
            <h1>Employee Dashboard</h1>
        </header>

        <!-- Navigation Menu -->
        <nav>
            <ul>
                <li>
                    <asp:HyperLink ID="hlUpdateCatalog" runat="server" NavigateUrl="update_catalog.aspx" Text="Update
Product Catalog" />
                </li>
                <li>
                    <asp:HyperLink ID="hlUpdateCustomer" runat="server" NavigateUrl="update_customer.aspx"
Text="Update Customer" />
                </li>
                <li>
                    <asp:Button ID="btnLogout" runat="server" Text="Logout" CssClass="btn" OnClick="btnLogout_Click" />
                </li>
            </ul>
        </nav>

        <div class="container">
            <h2>Welcome, Employee!</h2>
            <p>Select an option from the menu above to proceed.</p>
        </div>

    </form>
</body>

```

```
</html>
```

Vb:

```
Imports System
```

```
Imports System.Web.UI
```

```
Partial Class employee_dashboard
```

```
    Inherits System.Web.UI.Page
```

```
    Protected Sub Page_Load(sender As Object, e As EventArgs) Handles Me.Load
```

```
        If Session("Role") Is Nothing OrElse Session("Role").ToString() <> "Employee" Then  
            Response.Redirect("EmployeeLogin.aspx")
```

```
        End If
```

```
    End Sub
```

```
    Protected Sub btnLogout_Click(sender As Object, e As EventArgs)
```

```
        Session.Clear()
```

```
        Response.Redirect("LoginChoice.aspx")
```

```
    End Sub
```

```
End Class
```

Update_catalog:

Aspx

```
<%@ Page Language="VB" AutoEventWireup="true" CodeFile="update_catalog.aspx.vb" Inherits="update_catalog"
```

```
%>
```

```
<!DOCTYPE html>
```

```
<html>
```

```
<head runat="server">
```

```
    <title>Update Product Catalog</title>
```

```
    <link rel="stylesheet" href="style.css" />
```

```
</head>
```

```
<body>
```

```
<form id="form1" runat="server">
```

```
<header>
```

```
    <h1>Pine Valley Furniture - Update Catalog</h1>
```

```
</header>
```

```
<nav>
```

```
    <ul>
```

```
        <li><a href="employee_dashboard.aspx">Dashboard</a></li>
```

```
        <li><a href="update_customer.aspx">Update Customer</a></li>
```

```
    </ul>
```

```
</nav>
```

```
<div class="container">
```

```
    <h3>Search Product</h3>
```

```
    Product Description:
```

```

<asp:TextBox ID="txtSearch" runat="server" CssClass="input-field" Placeholder="Enter product
description"></asp:TextBox>
<asp:Button ID="btnSearch" runat="server" Text="Search" CssClass="btn" OnClick="btnSearch_Click" /><br /><br
/>

<h3>Edit Product</h3>
Product ID: <asp:Label ID="lblProductID" runat="server"></asp:Label><br /><br />
Line ID: <asp:TextBox ID="txtLineID" runat="server" CssClass="input-field"></asp:TextBox><br /><br />
Description: <asp:TextBox ID="txtDesc" runat="server" CssClass="input-field"></asp:TextBox><br /><br />
Finish: <asp:TextBox ID="txtFinish" runat="server" CssClass="input-field"></asp:TextBox><br /><br />
Price: <asp:TextBox ID="txtPrice" runat="server" CssClass="input-field"></asp:TextBox><br /><br />

<asp:Button ID="btnUpdate" runat="server" Text="Update" CssClass="btn" OnClick="btnConfirm_Click"
Enabled="False" /><br /><br />

<asp:Label ID="lblMessage" runat="server" ForeColor="Green"></asp:Label><br /><br />
</div>

</form>
</body>
</html>

```

Vb

Imports System.Data

Imports System.Data.SqlClient

Partial Class update_catalog

Inherits System.Web.UI.Page

Dim connString As String = ConfigurationManager.ConnectionStrings("PVFCCConnectionString").ConnectionString

Protected Sub Page_Load(sender As Object, e As EventArgs) Handles Me.Load

 If Session("Role") Is Nothing OrElse Session("Role").ToString() <> "Employee" Then

 Response.Redirect("LoginChoice.aspx")

 End If

End Sub

Protected Sub btnSearch_Click(sender As Object, e As EventArgs) Handles btnSearch.Click

 If txtSearch.Text.Trim() = "" Then

 Response.Write("<script>alert('Enter a product description');</script>")

 Return

 End If

Using conn As New SqlConnection(connString)

 Dim cmd As New SqlCommand("SELECT * FROM PRODUCT_t WHERE Product_Description LIKE @desc",
conn)

 cmd.Parameters.AddWithValue("@desc", "%" & txtSearch.Text.Trim() & "%")

 conn.Open()

 Dim reader As SqlDataReader = cmd.ExecuteReader()

 If reader.Read() Then

 lblProductID.Text = reader("Product_Id").ToString()

 txtLineID.Text = reader("Product_Line_Id").ToString()

```

        txtDesc.Text = reader("Product_Description").ToString()
        txtFinish.Text = reader("Product_Finish").ToString()
        txtPrice.Text = reader("Standard_Price").ToString()
        btnUpdate.Enabled = True
    Else
        lblProductID.Text = ""
        txtLineID.Text = ""
        txtDesc.Text = ""
        txtFinish.Text = ""
        txtPrice.Text = ""
        btnUpdate.Enabled = False
        Response.Write("<script>alert('Product not found');</script>")
    End If
End Using
End Sub

Protected Sub btnConfirm_Click(sender As Object, e As EventArgs) Handles btnUpdate.Click
    If lblProductID.Text = "" Then
        Response.Write("<script>alert('No product selected to update');</script>")
        Return
    End If

    Using conn As New SqlConnection(connString)
        Dim cmd As New SqlCommand("UPDATE PRODUCT_t SET Product_Line_Id=@lineid,
Product_Description=@desc, Product_Finish=@finish, Standard_Price=@price WHERE Product_Id=@id", conn)
        cmd.Parameters.AddWithValue("@lineid", Convert.ToInt32(txtLineID.Text.Trim()))
        cmd.Parameters.AddWithValue("@desc", txtDesc.Text.Trim())
        cmd.Parameters.AddWithValue("@finish", txtFinish.Text.Trim())
        cmd.Parameters.AddWithValue("@price", Convert.ToDecimal(txtPrice.Text.Trim()))
        cmd.Parameters.AddWithValue("@id", Convert.ToInt32(lblProductID.Text))

        conn.Open()
        cmd.ExecuteNonQuery()
    End Using

    lblMessage.Text = "Product updated successfully!"
End Sub
End Class

```

Update_customer:

Aspx

```

<%@ Page Language="VB" AutoEventWireup="true" CodeFile="update_customer.aspx.vb"
Inherits="update_customer" %>
<!DOCTYPE html>
<html>
<head runat="server">
    <title>Update Customer</title>
    <link rel="stylesheet" href="style.css" />
</head>

```

```
<body>
<form id="form1" runat="server">

<header>
  <h1>Pine Valley Furniture - Update Customer</h1>
</header>

<nav>
  <ul>
    <li><a href="index.aspx">Home</a></li>

    <li><a href="update_catalog.aspx">Update Catalog</a></li>

  </ul>
</nav>

<div class="container">
  <h3>Search Customer</h3>
  Customer ID:

  <asp:TextBox ID="txtCustomerId" runat="server" CssClass="input-field" Placeholder="Enter Customer
ID"></asp:TextBox>
  <asp:Button ID="btnSearch" runat="server" Text="Search" CssClass="btn" OnClick="btnSearch_Click" /><br /><br />
  <h3>Edit Customer</h3>
  Name:
  <asp:TextBox ID="txtName" runat="server" CssClass="input-field"></asp:TextBox><br /><br />
  Address:
  <asp:TextBox ID="txtAddress" runat="server" CssClass="input-field"></asp:TextBox><br /><br />
  City:
  <asp:TextBox ID="txtCity" runat="server" CssClass="input-field"></asp:TextBox><br /><br />
  State:
  <asp:TextBox ID="txtState" runat="server" CssClass="input-field"></asp:TextBox><br /><br />
  Postal Code:
  <asp:TextBox ID="txtPostal" runat="server" CssClass="input-field"></asp:TextBox><br /><br />

  <asp:Button ID="btnUpdate" runat="server" Text="Update" CssClass="btn"
  OnClick="btnUpdate_Click" Enabled="False" /><br /><br />

  <asp:Label ID="lblMessage" runat="server"></asp:Label><br /><br />
  <asp:HyperLink NavigateUrl="main.aspx" runat="server">
    Back
  </asp:HyperLink>

</div>

</form>
</body>
</html>
```

Vb:

```
Imports System.Configuration
Imports System.Data.SqlClient
```

```
Partial Class update_customer
    Inherits System.Web.UI.Page
```

```
    Dim connStr As String = ConfigurationManager.ConnectionStrings("PVFCCConnectionString").ConnectionString
```

```
    Protected Sub Page_Load(sender As Object, e As EventArgs) Handles Me.Load
        If Session("Role") Is Nothing OrElse Session("Role").ToString() <> "Employee" Then
            Response.Redirect("LoginChoice.aspx")
        End If
```

```
    End Sub
```

```
    Protected Sub btnSearch_Click(sender As Object, e As EventArgs)
```

```
        If txtCustomerId.Text = "" Then
            lblMessage.Text = "Please enter Customer ID"
            Exit Sub
        End If
```

```
        Dim conn As New SqlConnection(connStr)
        Dim query As String = "SELECT * FROM CUSTOMER_t WHERE Customer_Id = " & txtCustomerId.Text
        Dim cmd As New SqlCommand(query, conn)
```

```
        Try
            conn.Open()
            Dim reader As SqlDataReader = cmd.ExecuteReader()
```

```
            If reader.Read() Then

                txtName.Text = reader("Customer_Name").ToString()
                txtAddress.Text = reader("Customer_Address").ToString()
                txtCity.Text = reader("Customer_City").ToString()
                txtState.Text = reader("Customer_State").ToString()
                txtPostal.Text = reader("Postal_Code").ToString()

                lblMessage.Text = "Customer Found!"
                btnUpdate.Enabled = True
            Else
                lblMessage.Text = "Customer ID does not exist!"
                btnUpdate.Enabled = False
            End If
```

```
            conn.Close()
```

```
        Catch ex As Exception
            lblMessage.Text = "Error: " & ex.Message
        End Try
```

```
    End Sub
```

```
Protected Sub btnUpdate_Click(sender As Object, e As EventArgs)
```

```
    Dim conn As New SqlConnection(connStr)
```

```
    Dim query As String = "UPDATE CUSTOMER_t SET " &  
        "Customer_Name = " & txtName.Text & ", " &  
        "Customer_Address = " & txtAddress.Text & ", " &  
        "Customer_City = " & txtCity.Text & ", " &  
        "Customer_State = " & txtState.Text & ", " &  
        "Postal_Code = " & txtPostal.Text & " " &  
        "WHERE Customer_Id = " & txtCustomerId.Text
```

```
    Dim cmd As New SqlCommand(query, conn)
```

```
    Try
```

```
        conn.Open()  
        cmd.ExecuteNonQuery()
```

```
        lblMessage.Text = "Customer Updated Successfully!"
```

```
        conn.Close()
```

```
    Catch ex As Exception
```

```
        lblMessage.Text = "Error: " & ex.Message
```

```
    End Try
```

```
End Sub
```

```
End Class
```

Customer Login:

aspx

```
<%@ Page Language="VB" AutoEventWireup="true" CodeFile="CustomerLogin.aspx.vb" Inherits="CustomerLogin"  
%>
```

```
<!DOCTYPE html>
```

```
<html>
```

```
<head runat="server">
```

```
    <title>Customer Login</title>
```

```
    <link rel="stylesheet" href="style.css" />
```

```
</head>
```

```
<body>
```

```
<form id="form1" runat="server">
```

```
<div class="auth-box">
```

```
    <h2>Customer Login</h2>
```

```
    <asp:TextBox ID="txtUsername" runat="server" Placeholder="Username"></asp:TextBox>
```

```

<asp:TextBox ID="txtPassword" runat="server" TextMode="Password" Placeholder="Password"></asp:TextBox>
<asp:Button ID="btnLogin" runat="server" Text="Login" CssClass="btn" OnClick="btnLogin_Click" />
<br />
<asp:Label ID="lblMsg" runat="server" ForeColor="Red"></asp:Label>
<br />
<a href="Register.aspx">Don't have an account? Register</a>
</div>
</form>
</body>
</html>

```

vb

```
Imports System.Configuration
```

```
Imports System.Data
```

```
Imports System.Data.SqlClient
```

```
Partial Class CustomerLogin
```

```
    Inherits System.Web.UI.Page
```

```
    Protected Sub btnLogin_Click(sender As Object, e As EventArgs) Handles btnLogin.Click
```

```
        Dim connStr As String =
```

```
ConfigurationManager.ConnectionStrings("PVFCCConnectionString").ConnectionString
```

```
        Dim query As String = "SELECT Customer_Id, Customer_Name FROM CUSTOMER_t WHERE Email = @email
AND User_Password = @pass"
```

```
        Using conn As New SqlConnection(connStr)
```

```
            Using cmd As New SqlCommand(query, conn)
```

```
                cmd.Parameters.AddWithValue("@email", txtUsername.Text.Trim())
```

```
                cmd.Parameters.AddWithValue("@pass", txtPassword.Text.Trim())
```

```
                Try
```

```
                    conn.Open()
```

```
                    Dim reader As SqlDataReader = cmd.ExecuteReader()
```

```
                    If reader.Read() Then
```

```
                        Session("Customer_Id") = reader("Customer_Id")
```

```
                        Session("UserName") = reader("Customer_Name").ToString()
```

```
                        Session("Role") = "Customer"
```

```
                        Response.Redirect("index.aspx")
```

```
                    Else
```

```
                        lblMsg.Text = "Invalid email or password."
```

```
                    End If
```

```
                Catch ex As Exception
```

```
                    lblMsg.Text = "Database Error: " & ex.Message
```

```
                End Try
```

```
            End Using
```

```
        End Using
```

```
    End Sub
```

```
End Class
```

Register

Aspx

```
<%@ Page Language="VB" AutoEventWireup="false" CodeFile="Register.aspx.vb" Inherits="Register" %>
```

```
<!DOCTYPE html>
<html>
<head runat="server">
  <title>Customer Registration</title>
  <link href="style.css" rel="stylesheet" />
</head>
<body>

<form id="form1" runat="server">

<header>
  <h1>Pine Valley Furniture - Customer Registration</h1>
</header>

<nav>
  <ul>
    <li><a href="Main.aspx">Home</a></li>
    <li><a href="Register.aspx">Register</a></li>
    <li><a href="Cart.aspx">Cart</a></li>
  </ul>
</nav>

<div class="container">

  <div class="auth-box">

    <h2>New Customer</h2>

    <asp:TextBox ID="txtCustomerId" runat="server"
      CssClass="input-field" placeholder="Customer ID" />
    <br /><br />
    <asp:TextBox ID="txtEmail" runat="server"
      CssClass="input-field" placeholder="Email" />
    <br /><br />

    <asp:TextBox ID="txtPassword" runat="server"
      CssClass="input-field" placeholder="Password"
      TextMode="Password" />
    <br /><br />
    <asp:TextBox ID="txtName" runat="server"
      CssClass="input-field" placeholder="Customer Name" />
    <br /><br />

    <asp:TextBox ID="txtAddress" runat="server"
      CssClass="input-field" placeholder="Address" />
    <br /><br />
```

```

<asp:TextBox ID="txtCity" runat="server"
    CssClass="input-field" placeholder="City" />
<br /><br />

<asp:TextBox ID="txtState" runat="server"
    CssClass="input-field" placeholder="State (2 letters)" />
<br /><br />

<asp:TextBox ID="txtPostal" runat="server"
    CssClass="input-field" placeholder="Postal Code" />
<br /><br />

<asp:Button ID="btnSubmit" runat="server"
    Text="Register"
    CssClass="btn"
    OnClick="btnSubmit_Click" />
<br /><br />

<asp:Label ID="lblMessage" runat="server" />

</div>

</div>

</form>
</body>
</html>

.vb:
Imports System.Data.SqlClient
Imports System.Configuration

Partial Class Register
    Inherits System.Web.UI.Page

    Dim connStr As String = ConfigurationManager.ConnectionStrings("PVFCCConnectionString").ConnectionString

    Protected Sub btnSubmit_Click(sender As Object, e As EventArgs)

        Using conn As New SqlConnection(connStr)

            Dim query As String = "INSERT INTO CUSTOMER_t " &
                "(Customer_Id, Customer_Name, Customer_Address, Customer_City, Customer_State, Postal_Code,
                Email, User_Password, Role_Id) " &
                "VALUES (@Id, @Name, @Address, @City, @State, @Postal, @Email, @Password, 1)"

            Using cmd As New SqlCommand(query, conn)

                cmd.Parameters.AddWithValue("@Id", txtCustomerId.Text)
                cmd.Parameters.AddWithValue("@Name", txtName.Text)
                cmd.Parameters.AddWithValue("@Address", txtAddress.Text)
                cmd.Parameters.AddWithValue("@City", txtCity.Text)
            
```

```
cmd.Parameters.AddWithValue("@State", txtState.Text)
cmd.Parameters.AddWithValue("@Postal", txtPostal.Text)
cmd.Parameters.AddWithValue("@Email", txtEmail.Text)
cmd.Parameters.AddWithValue("@Password", txtPassword.Text)
```

Try

```
conn.Open()
cmd.ExecuteNonQuery()
```

```
lblMessage.ForeColor = Drawing.Color.Green
lblMessage.Text = "Customer Registered Successfully!"
```

Catch ex As Exception

```
lblMessage.ForeColor = Drawing.Color.Red
lblMessage.Text = "Error: " & ex.Message
```

End Try

End Using

End Using

End Sub

End Class

Search

Aspx

```
<%@ Page Language="VB" AutoEventWireup="false" CodeFile="search.aspx.vb" Inherits="search" %>
```

```
<!DOCTYPE html>
<html xmlns="http://www.w3.org/1999/xhtml">
<head runat="server">
  <title>Search Products - Pine Valley Furniture</title>
  <link rel="stylesheet" href="style.css" />
</head>
<body>

<form id="form1" runat="server">

<header>
  <h1>Search Products</h1>
</header>

<nav>
  <ul>
    <li><a href="main.aspx">Home</a></li>
    <li><a href="Cart.aspx">Cart</a></li>
  </ul>
</nav>

<div class="container">
```

```
<div style="margin-bottom:20px;">

  <asp:Label Text="Search Product:" runat="server" />

  <asp:TextBox
    ID="txtSearch"
    runat="server"
    style="padding:8px; border-radius:6px; border:1px solid #ccc;">
  </asp:TextBox>

  <asp:Button
    ID="btnSearch"
    runat="server"
    Text="Search"
    CssClass="btn"
    OnClick="btnSearch_Click" />

  <asp:Button
    ID="btnShowAll"
    runat="server"
    Text="Show All"
    CssClass="btn"
    OnClick="btnShowAll_Click" />

</div>

<asp:Label ID="lblMessage" runat="server"></asp:Label>

<br /><br />

<div class="product-grid">

  <asp:Repeater ID="rptProducts" runat="server" OnItemCommand="rptProducts_ItemCommand">
    <ItemTemplate>

      <div class="product-card">

        <div class="image-box"></div>

        <h3><%# Eval("Product_Description") %></h3>

        <p>Finish: <%# Eval("Product_Finish") %></p>

        <p><strong>$ <%# Eval("Standard_Price") %></strong></p>

        <div style="margin-top:10px;">
          Quantity:
          <asp:TextBox
            ID="txtQty"
            runat="server"
            Width="50px"
            style="padding:5px; border-radius:6px; border:1px solid #ccc;">
          </asp:TextBox>


```

```

        </div>

        <asp:Button
            ID="btnAdd"
            runat="server"
            Text="Add To Cart"
            CssClass="btn"
            style="margin-top:10px; width:100%;"
            CommandName="AddToCart"
            CommandArgument="<%=# Eval("Product_Id") %>" />

    </div>

</ItemTemplate>
</asp:Repeater>

</div>

</div>

</form>
</body>
</html>

```

.vb:

```
Imports System.Data.SqlClient
Imports System.Configuration
```

Partial Class search

Inherits System.Web.UI.Page

```
Dim connStr As String = ConfigurationManager.ConnectionStrings("PVFCCConnectionString").ConnectionString
```

```
Protected Sub Page_Load(sender As Object, e As EventArgs) Handles Me.Load
```

```
    ' Only logged-in customers allowed
```

```
    If Session("Customer_Id") Is Nothing Then
```

```
        Response.Redirect("CustomerLogin.aspx")
```

```
    End If
```

```
End Sub
```

```
Protected Sub btnSearch_Click(sender As Object, e As EventArgs)
```

```
    Dim con As New SqlConnection(connStr)
```

```
    Dim query As String = "SELECT Product_Id, Product_Description, Product_Finish, Standard_Price " &
        "FROM PRODUCT_t WHERE Product_Description LIKE @search"
```

```
    Dim cmd As New SqlCommand(query, con)
```

```
    cmd.Parameters.AddWithValue("@search", "%" & txtSearch.Text & "%")
```

```
    con.Open()
```

```
Dim dr As SqlDataReader = cmd.ExecuteReader()
```

```
rptProducts.DataSource = dr  
rptProducts.DataBind()
```

```
con.Close()
```

```
End Sub
```

```
Protected Sub btnShowAll_Click(sender As Object, e As EventArgs)
```

```
Dim con As New SqlConnection(connStr)
```

```
Dim query As String = "SELECT Product_Id, Product_Description, Product_Finish, Standard_Price FROM  
PRODUCT_t"
```

```
Dim cmd As New SqlCommand(query, con)
```

```
con.Open()  
Dim dr As SqlDataReader = cmd.ExecuteReader()
```

```
rptProducts.DataSource = dr  
rptProducts.DataBind()
```

```
con.Close()
```

```
End Sub
```

```
Protected Sub rptProducts_ItemCommand(source As Object, e As RepeaterCommandEventArgs)
```

```
If e.CommandName = "AddToCart" Then
```

```
Dim customerId As Integer = Convert.ToInt32(Session("Customer_Id"))
```

```
Dim productId As Integer = Convert.ToInt32(e.CommandArgument)  
Dim txtQty As TextBox = CType(e.Item.FindControl("txtQty"), TextBox)
```

```
If txtQty.Text = "" Then  
    lblMessage.Text = "Enter quantity."  
    Exit Sub  
End If
```

```
Dim quantity As Integer = Convert.ToInt32(txtQty.Text)
```

```
Dim con As New SqlConnection(connStr)  
con.Open()
```

```
Dim orderId As Integer = 0
```

```
Dim checkOrderQuery As String =  
"SELECT TOP 1 Order_Id FROM ORDER_t WHERE Customer_Id = @cid AND Order_Date =  
CAST(GETDATE() AS DATE)"
```

```
Dim cmdCheckOrder As New SqlCommand(checkOrderQuery, con)
```

```

cmdCheckOrder.Parameters.AddWithValue("@cid", customerId)

Dim result = cmdCheckOrder.ExecuteScalar()

If result Is Nothing Then

    Dim newIdQuery As String = "SELECT ISNULL(MAX(Order_Id),1000)+1 FROM ORDER_t"
    Dim cmdNewId As New SqlCommand(newIdQuery, con)
    orderId = Convert.ToInt32(cmdNewId.ExecuteScalar())

    Dim insertOrderQuery As String =
        "INSERT INTO ORDER_t VALUES (@oid, @cid, CAST(GETDATE() AS DATE))"

    Dim cmdInsertOrder As New SqlCommand(insertOrderQuery, con)
    cmdInsertOrder.Parameters.AddWithValue("@oid", orderId)
    cmdInsertOrder.Parameters.AddWithValue("@cid", customerId)

    cmdInsertOrder.ExecuteNonQuery()

Else
    orderId = Convert.ToInt32(result)
End If

    Dim checkLineQuery As String =
        "SELECT Ordered_Quantity FROM Order_line_t WHERE Order_Id = @oid AND Product_Id = @pid"

    Dim cmdCheckLine As New SqlCommand(checkLineQuery, con)
    cmdCheckLine.Parameters.AddWithValue("@oid", orderId)
    cmdCheckLine.Parameters.AddWithValue("@pid", productId)

    Dim existingQty = cmdCheckLine.ExecuteScalar()

    If existingQty IsNot Nothing Then

        Dim newQty As Integer = Convert.ToInt32(existingQty) + quantity

        Dim updateQuery As String =
            "UPDATE Order_line_t SET Ordered_Quantity = @qty WHERE Order_Id = @oid AND Product_Id =
@pid"

        Dim cmdUpdate As New SqlCommand(updateQuery, con)
        cmdUpdate.Parameters.AddWithValue("@qty", newQty)
        cmdUpdate.Parameters.AddWithValue("@oid", orderId)
        cmdUpdate.Parameters.AddWithValue("@pid", productId)

        cmdUpdate.ExecuteNonQuery()

    Else

        Dim insertLineQuery As String =
            "INSERT INTO Order_line_t VALUES (@oid, @pid, @qty)"

        Dim cmdInsertLine As New SqlCommand(insertLineQuery, con)
        cmdInsertLine.Parameters.AddWithValue("@oid", orderId)

```

```

        cmdInsertLine.Parameters.AddWithValue("@pid", productId)
        cmdInsertLine.Parameters.AddWithValue("@qty", quantity)

        cmdInsertLine.ExecuteNonQuery()

    End If

    con.Close()

    lblMessage.Text = "Product added to YOUR cart!"

End If

End Sub

End Class

```

Cart

Aspx:

```

<%@ Page Language="VB" AutoEventWireup="true" CodeFile="Cart.aspx.vb" Inherits="Cart" %>
<!DOCTYPE html>
<html>
<head runat="server">
    <title>My Cart</title>
    <link rel="stylesheet" href="style.css" />
</head>
<body>
    <form id="form1" runat="server">
        <h2>My Cart</h2>
        <asp:GridView ID="gvCart" runat="server" AutoGenerateColumns="False" CssClass="cart-table">
            <Columns>
                <asp:BoundField DataField="Product_Description" HeaderText="Product" />
                <asp:BoundField DataField="Quantity" HeaderText="Quantity" />
                <asp:BoundField DataField="Price" HeaderText="Price" DataFormatString="{0:C}" />
                <asp:BoundField DataField="Total" HeaderText="Total" DataFormatString="{0:C}" />
            </Columns>
        </asp:GridView>
        <br />
        <asp:Label ID="lblGrandTotal" runat="server" Text="" Font-Bold="True"></asp:Label>
        <br /><br />
        <asp:Button ID="btnCheckout" runat="server" Text="Proceed to Checkout" PostBackUrl="Payment.aspx"
            CssClass="btn" />
    </form>
</body>
</html>

```

Vb:

```

Imports System.Data
Imports System.Data.SqlClient
Imports System.Configuration

```

Partial Class Cart

Inherits System.Web.UI.Page

Private connStr As String = ConfigurationManager.ConnectionStrings("PVFCCConnectionString").ConnectionString

Protected Sub Page_Load(sender As Object, e As EventArgs) Handles Me.Load

If Not IsPostBack Then

LoadCart()

End If

End Sub

Private Sub LoadCart()

If Session("Customer_Id") Is Nothing Then

Response.Redirect("CustomerLogin.aspx")

Return

End If

Dim customerId As Integer = Convert.ToInt32(Session("Customer_Id"))

Using conn As New SqlConnection(connStr)

Dim query As String = "SELECT p.Product_Description, ol.Ordered_Quantity AS Quantity, p.Standard_Price
AS Price, " &

"(ol.Ordered_Quantity * p.Standard_Price) AS Total " &

"FROM ORDER_t o " &

"INNER JOIN Order_line_t ol ON o.Order_Id = ol.Order_Id " &

"INNER JOIN PRODUCT_t p ON ol.Product_Id = p.Product_Id " &

"WHERE o.Customer_Id = @CustomerId"

Using cmd As New SqlCommand(query, conn)

cmd.Parameters.AddWithValue("@CustomerId", customerId)

Dim dt As New DataTable()

Using da As New SqlDataAdapter(cmd)

da.Fill(dt)

End Using

gvCart.DataSource = dt

gvCart.DataBind()

' Calculate Grand Total

Dim grandTotal As Decimal = 0

For Each row As DataRow In dt.Rows

grandTotal += Convert.ToDecimal(row("Total"))

Next

lblGrandTotal.Text = "Grand Total: " & grandTotal.ToString("C")

End Using

End Using

End Sub

End Class

Help

.aspx

```
<%@ Page Language="VB" AutoEventWireup="false" CodeFile="Help.aspx.vb" Inherits="Help" %>
```

```
<!DOCTYPE html>
<html>
<head runat="server">
  <title>Help</title>
  <link rel="stylesheet" href="style.css" />
</head>
<body>

<form id="form1" runat="server">

<header>
  <h1>Help & User Guide</h1>
</header>

<nav>
  <ul>
    <li><a href="index.aspx">Home</a></li>
    <li><a href="Register.aspx">Register</a></li>
    <li><a href="Search.aspx">Search</a></li>
  </ul>
</nav>

<div class="container">

<h3>New Customer Registration</h3>
<p>Customers can register by filling their name, address, city, state and postal code.</p>
<p><a href="Register.aspx">Go to Registration Page</a></p>

<hr />

<h3>Search Products</h3>
<p>Users can search products by description and product line.</p>
<p><a href="Search.aspx">Go to Search Page</a></p>

<hr />

<h3>Product Catalog Update</h3>
<p>Only employees can update product description, finish and price.</p>
<p><a href="EmployeeLogin.aspx">Employee Login</a></p>

<hr />

<h3>Payment Provision</h3>
<p>Customers can select payment method after placing order.</p>
<p><a href="payment.aspx">Go to Payment Page</a></p>

</div>
```

<footer>

Contact us: 0309-5878126 | Email: hhm@gmail.com

</footer>

</form>

</body>

</html>

.vb:

[Partial Class Help](#)

[Inherits System.Web.UI.Page](#)

[End Class](#)