



LAB-10

Course:

Internet Application Development (CIS-305L)

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Problem

Develop an application with following specifications:

- Displays an initial page for user identification
- For admin user do the following
 - Prompts the user to enter the number of questions.
 - Switch to a new page and display controls for entering following

items:

- Question statement
- Answer options
- Correct choice

For any user do the following

- Switch to a new page and display all questions with options.
- Allow the user to select choices
- Grade the paper attempted

Home Page

Default.aspx

```
<%@ Page Title="Home Page" Language="VB" AutoEventWireup="true"
CodeBehind="Default.aspx.vb" %>

<!DOCTYPE html>
<html lang="en">
<head>
  <meta charset="utf-8" />
  <meta name="viewport" content="width=device-width, initial-scale=1.0" />
  <title>Home Page</title>
  <link href="~/favicon.ico" rel="shortcut icon" type="image/x-icon" />
  <style>
    /* Add the existing styles */
    .footer {
      position: fixed;
      left: 0;
      bottom: 0;
      width: 100%;
```

```

        background-color: #333;
        color: #fff;
        text-align: center;
        padding: 10px 0; /* Adjust padding as needed */
    }
    body {
        background-image: url('https://images.unsplash.com/photo-1606326608606-aa0b62935f2b?q=80&w=2070&auto=format&fit=crop&ixlib=rb-4.0.3&ixid=M3wxMjA3fDB8MHxwaG90by1wYWdlfHx8fGVufDB8fHx8fA%3D%3D'); /* Adjust the path to your image */
        background-size: cover;
        background-repeat: no-repeat;
        background-attachment: fixed;
        padding-top: 56px;
    }
</style>
<link href="https://cdn.jsdelivr.net/npm/bootstrap@5.3.3/dist/css/bootstrap.min.css"
rel="stylesheet" integrity="sha384-QWTKZyjpPEjISv5WaRU90FeRpok6YctnYmDr5pNlyT2bRjXh0JMhY6hW+ALEwIH" crossorigin="anonymous"
/>
</head>
<body>
    <form id="form1" runat="server">
        <nav class="navbar navbar-expand-lg navbar-dark bg-dark fixed-top">
            <div class="container">
                <a class="navbar-brand" href="/">Quizer</a>
                <button class="navbar-toggler" type="button" data-toggle="collapse" data-target="#navbarSupportedContent" aria-controls="navbarSupportedContent" aria-expanded="false" aria-label="Toggle navigation">
                    <span class="navbar-toggler-icon"></span>
                </button>
                <div class="collapse navbar-collapse" id="navbarSupportedContent">
                    <ul class="navbar-nav mr-auto">
                        <li class="nav-item">
                            <a class="nav-link" href="/">Home</a>
                        </li>
                        <li class="nav-item">
                            <a class="nav-link" href="Register.aspx">Register</a>
                        </li>
                    </ul>
                </div>
            </div>
        </nav>
        <div class="container-fluid py-4">
            <h1 class="text-center bg-primary">Quiz Project</h1>
            <br />
            <br />
            <br />
            <br />
            <br />
            <br />
            <br />
        </div>
    </form>
</body>
</html>

```

```

        <div class="row text-center ">
            <div class="col-md-6">
                <a class="btn btn-warning btn-lg btn-block"
href="studentLogin.aspx">Login as a Student</a>
            </div>
            <div class="col-md-6">
                <a class="btn btn-success btn-lg btn-block"
href="teacherLogin.aspx">Login as a Teacher</a>
            </div>
        </div>

    </div>
</form>
<footer class="footer">
    <p>&copy; %= DateTime.Now.Year %> - My Quizzer Application</p>
</footer>

<script
src="https://cdn.jsdelivr.net/npm/bootstrap@5.3.3/dist/js/bootstrap.bundle.min.js"
integrity="sha384-YvpcrYf0tY3lHB60NNkmXc5s9fDVZLESaAA55NDzOxhy9GkcIdslK1eN7N6jIeHz"
crossorigin="anonymous"></script>

</body>
</html>

```

Deault.aspx.vb

```

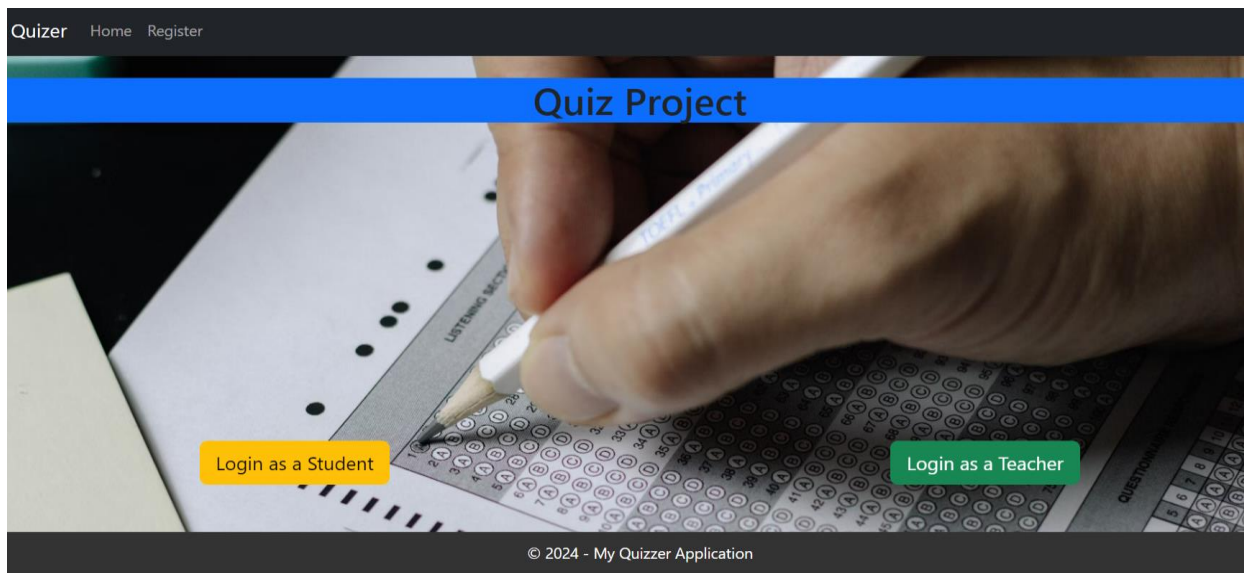
Public Class _Default
    Inherits Page

```

```

    Protected Sub Page_Load(ByVal sender As Object, ByVal e As EventArgs) Handles Me.Load
        Session("IsAuthenticated") = False
    End Sub
End Class

```



Teacher Login

.aspx

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

<!DOCTYPE html>

<html xmlns="http://www.w3.org/1999/xhtml">
<head runat="server">
    <title></title>
    <link href="https://cdn.jsdelivr.net/npm/bootstrap@5.3.3/dist/css/bootstrap.min.css"
rel="stylesheet" integrity="sha384-
QWTKZyjpPEjISv5WaRU90FeRpok6YctnYmDr5pNlyT2bRjXh0JMhJy6hW+ALEwIH"
crossorigin="anonymous"/>
</head>
<body>
    <form id="form1" runat="server">
        <div class="container d-flex justify-content-center align-items-center mt-5">
            <div class="row">
                <div class="col-md-6 offset-md-3 col-xl-4 offset-xl-4">
                    <div class="card shadow">
                        
                        <div class="card-body">
                            <h5 class="card-title">Login as a teacher</h5>
                            <div class="mb-3">
                                <asp:Label runat="server" AssociatedControlID="username"
CssClass="form-label">Username</asp:Label>
                                <asp:TextBox runat="server" ID="username" CssClass="form-
control" AutoFocus="true" />
                            </div>
                            <div class="mb-3">
                                <asp:Label runat="server" AssociatedControlID="password"
CssClass="form-label">Password</asp:Label>
                                <asp:TextBox runat="server" ID="password" CssClass="form-
control" TextMode="Password" />
                            </div>
                            <div class="d-grid gap-2">
                                <asp:Button runat="server" ID="btnLogin" CssClass="btn
btn-success btn-block" Text="Login" />
                            </div>
                        </div>
                    </div>
                </div>
            </div>
        </div>
        <div class="fixed-bottom mb-3 ml-3">
            <a href="Default.aspx" class="btn btn-primary">Back to Home</a>
        </div>
    </form>

```

```

    <script
src="https://cdn.jsdelivr.net/npm/bootstrap@5.3.3/dist/js/bootstrap.bundle.min.js"
integrity="sha384-YvpcrYf0tY3lHB60NNkmXc5s9fDVZLESaAA55NDzOxhy9GkcIdslK1eN7N6jIeHz"
crossorigin="anonymous"></script>
</body>
</html>

```

.vb

```

Imports System.Data.SqlClient
Partial Class pages_teacherLogin
    Inherits System.Web.UI.Page

    Protected Sub btnLogin_Click(ByVal sender As Object, ByVal e As EventArgs) Handles
btnLogin.Click
        Dim username As String = Me.username.Text
        Dim password As String = Me.password.Text
        Dim connectionString As String =
ConfigurationManager.ConnectionStrings("PVFC").ConnectionString

        Using connection As New SqlConnection(connectionString)
            Using command As New SqlCommand("SELECT COUNT(*) FROM User_Data WHERE Name =
@Name AND Password = @Password AND UserType = 'teacher'", connection)
                command.Parameters.AddWithValue("@Name", username)
                command.Parameters.AddWithValue("@Password", password)
                connection.Open()
                Dim count As Integer = Convert.ToInt32(command.ExecuteScalar())
                If count > 0 Then
                    ' Authentication successful for a Student, redirect to Quiz.aspx
                    Session("Username") = username
                    Session("IsAuthenticated") = True
                    Session("IsTeacher") = True

                    Response.Redirect("InsertQuestions.aspx")
                Else
                    ' Authentication failed or user is not a Student, display error
message
                    ' You can modify this part to display error message on the page

                    Response.Write("Invalid username or password for a Student.")
                End If
            End Using
        End Using

        ' Use the values for further processing, such as authentication, database lookup,
etc.
    End Sub

End Class

```



Login as a teacher

Username

Password

Login

Prompts the user to enter the number of questions.

Switch to a new page and display controls for entering following items:

- Question statement
- Answer options
- Correct choice

.aspx

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

```
<!DOCTYPE html>
```

```
<html xmlns="http://www.w3.org/1999/xhtml">
```

```

<head runat="server">
  <title>Questions</title>
  <link
href="https://cdn.jsdelivr.net/npm/bootstrap@5.3.3/dist/css/bootstrap.min.css"
rel="stylesheet" integrity="sha384-
QWTKZyjpPEjISv5WaRU90FeRpok6YctnYmDr5pNlyT2bRjXh0JMhjY6hW+ALEwIH" crossorigin="anonymous"
/>

</head>
<body>
  <form id="form1" runat="server" class="">
    <asp:Button runat="server" ID="btnLogout" CssClass="btn btn-warning btn-block"
Text="Logout" OnClick="btnLogout_Click" />

    <div class="container">
      <div class="card-body">
        <h1 class="card-title">
          Insert Questions
        </h1>
        <div class="mb-3">
          <asp:Label ID="lblQuestionCount" runat="server" Text="Enter the number of
questions:" CssClass="form-label"></asp:Label>
          <asp:TextBox ID="txtQuestionCount" runat="server" CssClass="form-
control"></asp:TextBox>
        </div>
        <div class="d-grid gap-2">
          <asp:Button ID="btnCreateQuestions" runat="server" Text="Create
Questions" OnClick="BtnCreateQuestions_Click" />
        </div>
      </div>
      <br />
      <asp:Placeholder ID="phQuestions" runat="server"></asp:Placeholder>

    </div>

    <div class="container">
      <div class="d-grid gap-2">
        <asp:Button ID="btnSubmitQuestions" runat="server" Text="Submit
Questions" OnClick="btnSubmitQuestions_Click" CssClass="btn btn-primary" />
      </div>
    </div>
  </form>
  <script
src="https://cdn.jsdelivr.net/npm/bootstrap@5.3.3/dist/js/bootstrap.bundle.min.js"
integrity="sha384-YvpcrYf0tY3lHB60NNkmXc5s9fDVZLESaAA55NDz0xhy9GkcIdslK1eN7N6jIeHz"
crossorigin="anonymous"></script>

</body>
</html>

```

.vb

```

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

```



```

Partial Class pages_InsertQuestions
    Inherits System.Web.UI.Page

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

        If Session("IsAuthenticated") Is Nothing OrElse Not
            Convert.ToBoolean(Session("IsAuthenticated")) Then
            ' User is not authenticated
            ' Redirect to login page
            Response.Redirect("teacherLogin.aspx")
        End If

        If Convert.ToBoolean(Session("IsTeacher")) = False Then
            Response.Redirect("Quiz.aspx")
        End If

        If Not IsPostBack Then

            ' Set initial value for txtQuestionCount on first load
            txtQuestionCount.Text = "1"
        End If
        ' Ensure that the controls are recreated on postback
        CreateQuestionControls()
    End Sub

    Protected Sub BtnCreateQuestions_Click(sender As Object, e As EventArgs) Handles
        btnCreateQuestions.Click
        ' Ensure that the controls are recreated
        CreateQuestionControls()
    End Sub

    Protected Sub btnSubmitQuestions_Click(ByVal sender As Object, ByVal e As EventArgs)
        Handles btnSubmitQuestions.Click
        ' Check if txtQuestionCount is not null or empty
        If Not String.IsNullOrEmpty(txtQuestionCount.Text) Then
            Dim connectionString As String =
                ConfigurationManager.ConnectionStrings("PVFC").ConnectionString
            Dim dataSavedSuccessfully As Boolean = False

            Try
                ' Loop through each question
                For i As Integer = 1 To Convert.ToInt32(txtQuestionCount.Text)
                    ' Extract data from dynamically generated controls
                    Dim questionTextBox As TextBox =
                        DirectCast(phQuestions.FindControl("txtQuestion_" & i.ToString()), TextBox)
                    Dim option1TextBox As TextBox =
                        DirectCast(phQuestions.FindControl("txtOption_" & i.ToString() & "_1"), TextBox)
                    Dim option2TextBox As TextBox =
                        DirectCast(phQuestions.FindControl("txtOption_" & i.ToString() & "_2"), TextBox)
                    Dim option3TextBox As TextBox =
                        DirectCast(phQuestions.FindControl("txtOption_" & i.ToString() & "_3"), TextBox)
                    Dim option4TextBox As TextBox =
                        DirectCast(phQuestions.FindControl("txtOption_" & i.ToString() & "_4"), TextBox)
                    Dim correctOptionDropDown As DropDownList =
                        DirectCast(phQuestions.FindControl("ddlCorrectOption_" & i.ToString()), DropDownList)

                    If correctOptionDropDown.SelectedIndex = 0 Then

```

```

        Response.Write("Option for Question" & i.ToString() & "not
selected")

    End If

    ' Connect to the database
    Using connection As New SqlConnection(connectionString)
        ' Open the connection
        connection.Open()

        ' Define the SQL query to insert data into the Questions table
        Dim query As String = "INSERT INTO Questions (Statement, Option1,
Option2, Option3, Option4, CorrectOption) VALUES (@Statement, @Option1, @Option2,
@Option3, @Option4, @CorrectOption)"

        ' Create a SqlCommand object
        Using command As New SqlCommand(query, connection)
            ' Add parameters
            command.Parameters.AddWithValue("@Statement",
questionTextBox.Text)
            command.Parameters.AddWithValue("@Option1",
option1TextBox.Text)
            command.Parameters.AddWithValue("@Option2",
option2TextBox.Text)
            command.Parameters.AddWithValue("@Option3",
option3TextBox.Text)
            command.Parameters.AddWithValue("@Option4",
option4TextBox.Text)
            command.Parameters.AddWithValue("@CorrectOption",
correctOptionDropDown.SelectedValue)

            ' Execute the query
            Dim linesEffected As Integer = command.ExecuteNonQuery()
            If linesEffected > 0 Then
                dataSavedSuccessfully = True
            Else
                dataSavedSuccessfully = False
            End If
        End Using
    End Using
Next
Catch ex As Exception

End Try

' If all data is successfully saved, set the flag to true
If dataSavedSuccessfully Then
    Response.Redirect("InsertQuestions.aspx")
Else
    Response.Write("Not All Questions saved in DB")

    'Response.Redirect("../Default.aspx")
End If
Else
    ' Display a message or perform some action if txtQuestionCount is null or
empty

```

```

        End If
    End Sub

    Protected Sub btnLogout_Click(ByVal sender As Object, ByVal e As EventArgs) Handles
btnLogout.Click
        Session.Clear()
        Session.Abandon()
        Response.Redirect("Default.aspx")
    End Sub

    Private Sub CreateQuestionControls()
        ' Clear existing controls from placeholder
        phQuestions.Controls.Clear()

        Dim questionCount As Integer = Convert.ToInt32(txtQuestionCount.Text)

        For i As Integer = 1 To questionCount
            Dim questionCard As New Panel()
            questionCard.CssClass = "card mb-3"

            Dim cardHeader As New Literal()
            cardHeader.Text = "<div class='card-header'>Question " & i.ToString() &
"</div>"
            questionCard.Controls.Add(cardHeader)

            Dim cardBody As New Panel()
            cardBody.CssClass = "card-body"

            Dim questionTextBox As New TextBox()
            questionTextBox.ID = "txtQuestion_" & i.ToString()
            questionTextBox.CssClass = "form-control mb-3"
            questionTextBox.Attributes("placeholder") = "Satement " & i.ToString() & "
here..."
            cardBody.Controls.Add(questionTextBox)

            For j As Integer = 1 To 4
                Dim optionTextBox As New TextBox()
                optionTextBox.ID = "txtOption_" & i.ToString() & "_" & j.ToString()
                optionTextBox.CssClass = "form-control mb-3"
                optionTextBox.Attributes("placeholder") = "Enter option " & j.ToString()
                cardBody.Controls.Add(optionTextBox)
            Next

            Dim correctOptionDropDown As New DropDownList()
            correctOptionDropDown.ID = "ddlCorrectOption_" & i.ToString()

            correctOptionDropDown.CssClass = "form-select mb-3"
            correctOptionDropDown.Items.Add(New ListItem("Select correct option", ""))
            correctOptionDropDown.Items.Add(New ListItem("Option 1", "1"))
            correctOptionDropDown.Items.Add(New ListItem("Option 2", "2"))
            correctOptionDropDown.Items.Add(New ListItem("Option 3", "3"))
            correctOptionDropDown.Items.Add(New ListItem("Option 4", "4"))
            cardBody.Controls.Add(correctOptionDropDown)

            questionCard.Controls.Add(cardBody)
            phQuestions.Controls.Add(questionCard)
        Next
    End Sub

```

```
        ' Enable the submit button after controls are created
        btnSubmitQuestions.Enabled = True
    End Sub
End Class
```

Insert Questions

Enter the number of questions:

Create Questions

Question 1

Submit Questions

Student Login:

.aspx

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

<!DOCTYPE html>

<html xmlns="http://www.w3.org/1999/xhtml">
<head runat="server">
    <title></title>
    <link href="https://cdn.jsdelivr.net/npm/bootstrap@5.3.3/dist/css/bootstrap.min.css"
rel="stylesheet" integrity="sha384-
QWTKZyjpPEjISv5WaRU90FeRpok6YctnYmDr5pNlyT2bRjXh0JMhY6hW+ALEwIH"
crossorigin="anonymous"/>
</head>
<body>
    <form id="form1" runat="server">
        <div class="container d-flex justify-content-center align-items-center mt-5">
            <div class="row">
                <div class="col-md-6 offset-md-3 col-xl-4 offset-xl-4">
```

```

        <div class="card shadow">
            
            <div class="card-body">
                <h5 class="card-title">Login as a Student</h5>
                <div class="mb-3">
                    <label class="form-label" for="username">Username</label>
                    <input runat="server" class="form-control" type="text"
id="username" name="username" autofocus required />
                </div>
                <div class="mb-3">
                    <label class="form-label" for="password">Password</label>
                    <input runat="server" class="form-control"
type="password" id="password" name="password" required />
                </div>
                <div class="d-grid gap-2">
                    <asp:Button runat="server" ID="btnLogin" CssClass="btn
btn-success btn-block" Text="Login" OnClick="btnLogin_Click" />
                </div>
            </div>
        </div>
    </div>
</div>
</div>
</form>

    <div class="fixed-bottom mb-3 ml-3">
        <a href="Default.aspx" class="btn btn-primary">Back to Home</a>
    </div>
<script
src="https://cdn.jsdelivr.net/npm/bootstrap@5.3.3/dist/js/bootstrap.bundle.min.js"
integrity="sha384-YvpcrYf0tY3lHB60NNkmXc5s9fDVZLESaAA55NDz0xhy9GkcIdslK1eN7N6jIeH2"
crossorigin="anonymous"></script>
</body>
</html>

```

.vb

```

Imports System.Data.SqlClient
Partial Class pages_studentLogin
    Inherits System.Web.UI.Page

    Protected Sub btnLogin_Click(ByVal sender As Object, ByVal e As EventArgs) Handles
btnLogin.Click
        Dim username As String = Me.username.Value ' Access the value of the username
input
        Dim password As String = Me.password.Value ' Access the value of the password
input

        Dim connectionString As String =
ConfigurationManager.ConnectionStrings("PVFC").ConnectionString

```

```

Using connection As New SqlConnection(connectionString)
    Using command As New SqlCommand("SELECT COUNT(*) FROM User_Data WHERE Name =
@Name AND Password = @Password AND UserType = 'student'", connection)
        command.Parameters.AddWithValue("@Name", username)
        command.Parameters.AddWithValue("@Password", password)
        connection.Open()
        Dim count As Integer = Convert.ToInt32(command.ExecuteScalar())
        If count > 0 Then
            ' Authentication successful for a Student, redirect to Quiz.aspx
            Session("Username") = username
            Session("IsAuthenticated") = True
            Session("IsTeacher") = False
            Response.Redirect("Quiz.aspx")
        Else
            ' Authentication failed or user is not a Student, display error
message
            ' You can modify this part to display error message on the page

            Response.Write("Invalid username or password for a Student.")
        End If
    End Using
End Using
End Sub

End Class

```



Login as a Student

Username

Password

[Login](#)

[Back to Home](#)

For any user do the following

- Switch to a new page and display all questions with options.
- Allow the user to select choices
- Grade the paper attempted

.aspx

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

<!DOCTYPE html>

<html xmlns="http://www.w3.org/1999/xhtml">
<head runat="server">
  <title>Quiz</title>
  <link href="https://cdn.jsdelivr.net/npm/bootstrap@5.3.3/dist/css/bootstrap.min.css"
rel="stylesheet" integrity="sha384-
QWTKZyjpPEjISv5WaRU90FeRpok6YctnYmDr5pNlyT2bRjXh0JMhJY6hW+ALEwIH" crossorigin="anonymous"
/>
</head>
<body>
  <form id="form1" runat="server">
    <asp:Button runat="server" ID="btnLogout" CssClass="btn btn-warning btn-block"
Text="Logout" OnClick="btnLogout_Click" />
    <h1>Quiz</h1>
    <div class="form-group">
      <label for="txtNumberOfQuestions">Enter Number of Questions (5-30):</label>
      <asp:TextBox ID="txtNumberOfQuestions" runat="server" CssClass="form-control"
type="number" min="5" max="30"></asp:TextBox>
    </div>
    <div class="d-grid gap-2">
      <asp:Button ID="GenerateQuiz" runat="server" Text="Generate Quiz"
OnClick="Btn_GenerateQuiz_Click" CssClass="btn btn-primary" />
    </div>

    <div>
      <br />
      <asp:Placeholder ID="phQuestions" runat="server"></asp:Placeholder>
      <asp:HiddenField ID="hdnCorrectOptions" runat="server" />
    </div>

    <div class="d-flex justify-content-center">
      <asp:Button ID="Submit" runat="server" Text="Submit" CssClass="btn btn-
warning" OnClick="Submit_Click" />
    </div>

    <div>
      <h2>Quiz Score:</h2>
      <asp:Label ID="lblScore" runat="server" Text=""></asp:Label>
    </div>
  </form>
</body>
</html>
```

```
        </div>

    </form>

    <script
src="https://cdn.jsdelivr.net/npm/bootstrap@5.3.3/dist/js/bootstrap.bundle.min.js"
integrity="sha384-YvpcrYf0tY3lHB60NNkmXc5s9fDVZLESaAA55NDzOxhy9GkcIdslK1eN7N6jIeHz"
crossorigin="anonymous"></script>

</body>
</html>
```

.vb

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

Partial Class pages_Quiz
    Inherits System.Web.UI.Page

    ' Variable to store the user's score
    Dim score As Integer = 0

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

        If Session("IsAuthenticated") Is Nothing OrElse Not
Convert.ToBoolean(Session("IsAuthenticated")) Then
            ' User is not authenticated
            ' Redirect to login page
            Response.Redirect("StudentLogin.aspx")
        End If

        Submit.Enabled = False

    End Sub

    Protected Sub Btn_GenerateQuiz_Click(ByVal sender As Object, ByVal e As EventArgs)
        ' Retrieve the number of questions entered by the user
        Dim questionCount As Integer = Integer.Parse(txtNumberOfQuestions.Text)

        ' Call a method to generate the quiz based on the number of questions
        QuizGeneration(questionCount)

        Submit.Enabled = True
    End Sub

    Protected Sub Submit_Click(ByVal sender As Object, ByVal e As EventArgs) Handles
Submit.Click
        If IsPostBack Then
            Dim score As Integer = 0
```



```

Dim QuestionCount As Integer = Integer.Parse(txtNumberOfQuestions.Text)
Dim correctOptionsString As String = hdnCorrectOptions.Value
Dim correctOptionsArray As String() = correctOptionsString.Split(",")

For i As Integer = 1 To QuestionCount
    ' Find the DropDownList for the current question
    Dim correctOptionDropDown As String = Request.Form("ddlCorrectOption_" &
i.ToString())

    ' Check if the DropDownList is found
    If correctOptionDropDown IsNot Nothing Then
        ' Append the selected value to the label
        If String.IsNullOrEmpty(correctOptionDropDown) Then
            Response.Redirect("Quiz.aspx")
        End If

        If Integer.Parse(correctOptionsArray(i - 1)) =
Integer.Parse(correctOptionDropDown) Then
            score += 1
        End If
    End If
Next

lblScore.Visible = True

lblScore.Text = "Your Score is: " & score & " out of " & QuestionCount

If score >= QuestionCount / 2 Then
    lblScore.CssClass = "text-success" ' Green color for score
Else
    lblScore.CssClass = "text-danger" ' Red color for score
End If

' Enable quiz generation and reset the number of questions textbox
GenerateQuiz.Enabled = True
txtNumberOfQuestions.Enabled = True
txtNumberOfQuestions.Text = "5" ' Reset to default value
End If
End Sub

Protected Sub QuizGeneration(ByVal questionCount As Integer)
    Dim connectionString As String =
ConfigurationManager.ConnectionStrings("PVFC").ConnectionString
    txtNumberOfQuestions.Enabled = False
    GenerateQuiz.Enabled = False
    Dim correctOptions As New List(Of String)()

    Try
        Using connection As New SqlConnection(connectionString)
            connection.Open()

            ' Query to retrieve questions from the database

```

```

Dim query As String = "SELECT TOP (@QuestionCount) Statement, Option1,
Option2, Option3, Option4, CorrectOption FROM Questions ORDER BY NEWID()"
Using command As New SqlCommand(query, connection)
    ' Add parameters
    command.Parameters.AddWithValue("@QuestionCount", questionCount)

    ' Counter variable to keep track of question number
    Dim questionNumber As Integer = 1

    Using reader As SqlDataReader = command.ExecuteReader()
        ' Loop through each question retrieved from the database
        While reader.Read()
            ' Create a new card div for each question
            Dim questionCard As New Panel()
            questionCard.CssClass = "card mb-3"

            ' Create the card header with the question statement and
            number
            Dim cardHeader As New Literal()
            cardHeader.Text = "<div class='card-header'
style='background-color: #cc2f4e; color: #ffffff;'>Question " & questionNumber.ToString()
            & ": " & reader("Statement").ToString() & "</div>"
            questionCard.Controls.Add(cardHeader)

            ' Create the card body with the options as ordered lists
            Dim cardBody As New Panel()
            cardBody.CssClass = "card-body"

            ' Create an ordered list for the options
            Dim optionList As New HtmlGenericControl("ol")
            optionList.Attributes.Add("class", "list-group list-group-
            numbered")

            ' Loop through each option and add them to the ordered list
            For i As Integer = 1 To 4
                Dim optionListItem As New HtmlGenericControl("li")
                optionListItem.Attributes.Add("class", "list-group-item")
                optionListItem.InnerText = reader("Option" &
                i).ToString()

                optionList.Controls.Add(optionListItem)
            Next

            ' Add the ordered list to the card body
            cardBody.Controls.Add(optionList)

            ' Create a dropdown list to select the correct option
            Dim correctOptionDropDown As New DropDownList()
            correctOptionDropDown.ID = "ddlCorrectOption_" &
            questionNumber ' Set the ID
            correctOptionDropDown.CssClass = "form-select mb-3"
            correctOptionDropDown.Items.Add(New ListItem("Select correct
            option", ""))

            For i As Integer = 1 To 4
                correctOptionDropDown.Items.Add(New ListItem("Option " &
            i.ToString(), i.ToString()))
            Next
        End While
    End Using
End Using

```

```

        correctOptionDropDown.Style.Add("background-color",
"#2a7dfa") ' Light gray background color for dropdown list

        ' Add the dropdown list to the card body
        cardBody.Controls.Add(correctOptionDropDown)
        ' Adding correct option to the array of correct options
        correctOptions.Add(reader("CorrectOption").ToString())
        ' Add the card body to the question card
        questionCard.Controls.Add(cardBody)
        ' Add the question card to the placeholder
        phQuestions.Controls.Add(questionCard)
        ' Increment the question number
        questionNumber += 1
    End While
End Using
End Using
End Using
Catch ex As Exception
    ' Handle any exceptions here
End Try
' Storing correct options in hidden field
hdnCorrectOptions.Value = String.Join(",", correctOptions)

txtNumberOfQuestions.Text = questionCount.ToString()
End Sub

Protected Sub btnLogout_Click(ByVal sender As Object, ByVal e As EventArgs) Handles
btnLogout.Click
    Session.Clear()
    Session.Abandon()
    Response.Redirect("Default.aspx")
End Sub

End Class

```

Logout

Quiz

Enter Number of Questions (5-30):

Generate Quiz

Question 1: Who discovered America?

1. Christopher Columbus

2. Vasco da Gama

3. Amerigo Vespucci

4. Ferdinand Magellan

Select correct option ▼

Question 2: What is the chemical symbol for gold?

1. Ag

2. Au

3. Pt

4. Fe