

Problem Statement of Lab

Problem 1) Implement a simple program that uses viewstate to store and retrieve counter value. Whenever Increment button is clicked counter should be incremented by 2? Write code behind below?

If this page is accessed using different browser windows, or from more than one clients, whether the counter value would be same, or it would be different at different time instants? Give reason for the observation?

Problem 2) Extend the program implemented above and make the View State secure? Refer to the textbook for the technique of securing?

Problem 3) Consider the following definition of customer class. Develop a web form that stores three objects of customer in viewstate. Implement the code for retrieving customer objects also?

```
Public Class Customer
```

```
    private _firstName As String
    Public Property FirstName() As String
        Get
            Return _firstName
        End Get
        Set(ByVal Value As String)
            _firstName = Value
        End Set
    End Property
```

```
    private _lastName As String
    Public Property LastName() As String
        Get
            Return _lastName
        End Get
        Set(ByVal Value As String)
            _lastName = Value
        End Set
    End Property
```

```
    Public Sub New(ByVal firstName As String, ByVal lastName As String)
        Me.FirstName = firstName
        Me.LastName = lastName
    End Sub
End Class
```

Code implementation report.

Problem 1:

frontend

```
<%@ Page Language="vb" AutoEventWireup="false" CodeFile="WebForm1.aspx.vb"
Inherits="WebForm1" %>

<!DOCTYPE html>
<html xmlns="http://www.w3.org/1999/xhtml">
<head runat="server">
    <title>Counter Increment Example</title>
</head>
<body>
    <form id="form1" runat="server">
        <h2>Simple Counter Example using ViewState</h2>
        <asp:Label ID="lblCounter" runat="server" Text="Counter: 0" Font-
Size="Large"></asp:Label>
        <br /><br />
        <asp:Button ID="btnIncrement" runat="server" Text="Increment by 2"
OnClick="btnIncrement_Click" />
    </form>
</body>
</html>
```

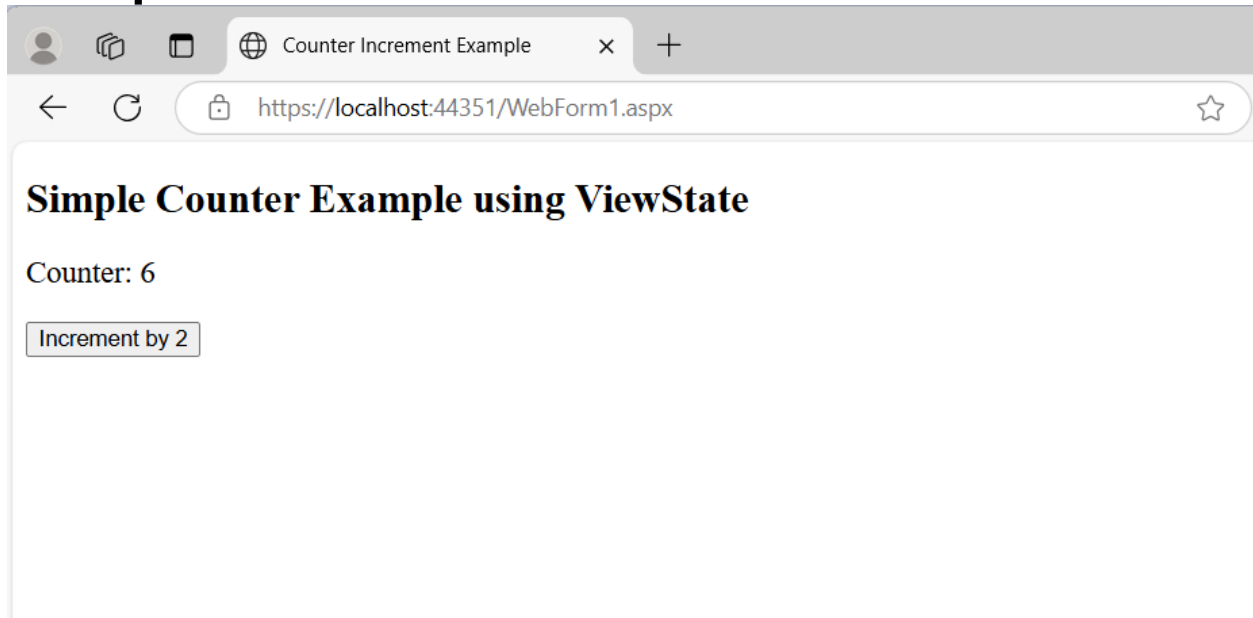
Backend

```
Partial Public Class WebForm1
    Inherits System.Web.UI.Page

    ' This function is triggered when the "Increment" button is clicked
    Protected Sub btnIncrement_Click(ByVal sender As Object, ByVal e As EventArgs)
        ' Check if the counter exists in ViewState
        If ViewState("Counter") IsNot Nothing Then
            ' Increment the counter by 2
            Dim counter As Integer = Convert.ToInt32(ViewState("Counter"))
            counter += 2
            ' Update the ViewState with the new counter value
            ViewState("Counter") = counter
        Else
            ' Initialize counter if it's not in ViewState
            ViewState("Counter") = 2
        End If

        ' Update the label with the current counter value
        lblCounter.Text = "Counter: " & ViewState("Counter").ToString()
    End Sub
End Class
```

Output



Problem 2: Frontend

```
<%@ Page Language="vb" AutoEventWireup="false" CodeFile="WebForm2.aspx.vb"
Inherits="WebForm2" EnableViewStateMac="true" %>

<!DOCTYPE html>
<html xmlns="http://www.w3.org/1999/xhtml">
<head runat="server">
    <title>Secure Counter Example using ViewState</title>
</head>
<body>
    <form id="form1" runat="server">
        <h2>Secure Counter Example using ViewState</h2>
        <asp:Label ID="lblCounter" runat="server" Text="Counter: 0" Font-
Size="Large"></asp:Label>
        <br /><br />
        <asp:Button ID="btnIncrement" runat="server" Text="Increment by 2"
OnClick="btnIncrement_Click" />
    </form>
</body>
</html>
```

Backend

```
Partial Public Class WebForm1
    Inherits System.Web.UI.Page

    ' This function is triggered when the "Increment" button is clicked
    Protected Sub btnIncrement_Click(ByVal sender As Object, ByVal e As EventArgs)
        ' Check if the counter exists in ViewState
        If ViewState("Counter") IsNot Nothing Then
            ' Increment the counter by 2
            Dim counter As Integer = Convert.ToInt32(ViewState("Counter"))
            counter += 2
            ' Update the ViewState with the new counter value
            ViewState("Counter") = counter
        Else
            ' Initialize counter if it's not in ViewState
            ViewState("Counter") = 2
        End If

        ' Update the label with the current counter value
        lblCounter.Text = "Counter: " & ViewState("Counter").ToString()
    End Sub
End Class
```

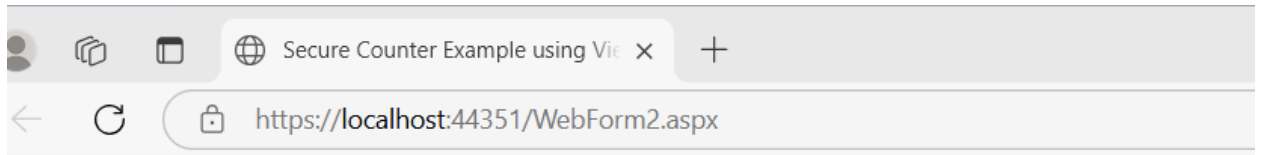
Backend

```
Partial Public Class WebForm2
    Inherits System.Web.UI.Page

    ' This function is triggered when the "Increment" button is clicked
    Protected Sub btnIncrement_Click(ByVal sender As Object, ByVal e As EventArgs)
        ' Check if the counter exists in ViewState
        If ViewState("Counter") IsNot Nothing Then
            ' Increment the counter by 2
            Dim counter As Integer = Convert.ToInt32(ViewState("Counter"))
            counter += 2
            ' Update the ViewState with the new counter value
            ViewState("Counter") = counter
        Else
            ' Initialize counter if it's not in ViewState
            ViewState("Counter") = 2
        End If

        ' Update the label with the current counter value
        lblCounter.Text = "Counter: " & ViewState("Counter").ToString()
    End Sub
End Class
```

Output:



Secure Counter Example using ViewState

Counter: 0

Increment by 2

