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Practical 3

Aim: Create a simple application to demonstrate use of following concepts

- Function Overloading
 Create a class ShapeCalculator() with 3 CalculateArea() methods to find area of circle, rectangle, triangle.
- ii. Inheritance (all types)
- iii. Constructor
 - A. Overriding Create a base class person with a constructor for name and age. Create a derived class student with an extra property StudentId and call base constructor. Create a student object and display all details.
 - B. Overloading Create a class book with multiple constructors, one constructor accepts only title, 2nd constructor accepts title and author, 3rd constructor accepts author, price, title. Create objects using diff constructors and display book details.
- iv. Interfaces
- v. Using Delegates and events
- vi. Exception handling

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i. Function Overloading

Create a class ShapeCalculator() with 3 CalculateArea() methods to find area of circle, rectangle, triangle.

Output:

Area of Circle: 153.9380400259 Area of Rectangle: 50

Area of Triangle: 24

=== Code Execution Successful ===

ii.Inheritance

```
Animal eats food.
Dog barks.
---- Multilevel Inheritance ----
Animal eats food.
Dog barks.
Puppy weeps.
---- Hierarchical Inheritance ----
Animal eats food.
Cat meows.
---- Multiple Inheritance (Using Interfaces) ----
Human can run.
Human can swim.
```

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iii. Constructor

A. Overriding - Create a base class person with a constructor for name and age. Create a derived class student with an extra property studentid and call base constructor. Create a student object and display all details.

Output:

```
Name: Arya
Age: 20
Student ID: 101
=== Code Execution Successful ===
```

B. Overloading - Create a class book with multiple constructors, one constructor accepts only title, 2nd constructor accepts title and author, 3rd constructor accepts author, price, title. Create objects using diff constructors and display book details.

Output:

Title: The Alchemist Author: Unknown

Price: 0

Title: Wings of Fire

Author: A.P.J. Abdul Kalam

Price: 0

Title: 1984

Author: George Orwell

Price: 499.99

=== Code Execution Successful ===

iv. Interface

Output

```
Drawing a Circle.
Filling Circle with Red color.

=== Code Execution Successful ===
```

v. Using Delegates and events

Output:

```
(100+40) = 140
(100-60) = 40
=== Code Execution Successful ===
```

vi.

```
Enter a number:

3
Enter another number:

0
ERROR!
Error: Cannot divide by zero!
Execution completed (finally block).

=== Code Execution Successful ===
```

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PRACTICAL 4

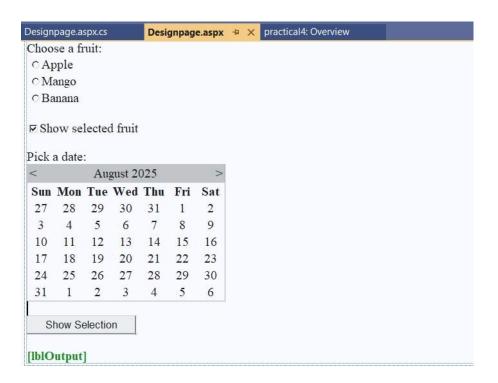
Create a simple web page with various server controls to demonstrate setting and use of their properties. (Example: AutoPostBack)

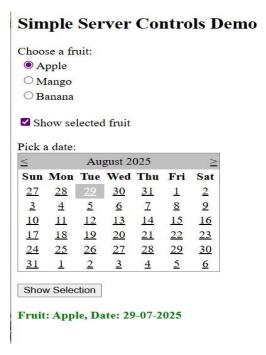
Code

</asp:RadioButtonList>

```
aspx
<%@ Page Language="C#" AutoEventWireup="true" CodeBehind="Designpage.aspx.cs"</pre>
Inherits="practical4.designpage" %>
<!DOCTYPE html>
<a href="http://www.w3.org/1999/xhtml">
<head runat="server">
  <title></title>
</head>
<body>
  <form id="form1" runat="server">
    <div>
      <h2>Simple Server Controls Demo</h2>
    <!-- RadioButtonList -->
    <asp:Label ID="Label1" runat="server" Text="Choose a fruit:"></asp:Label><br/>
    <asp:RadioButtonList ID="rblFruits" runat="server">
      <asp:ListItem>Apple</asp:ListItem>
      <asp:ListItem>Mango</asp:ListItem>
      <asp:ListItem>Banana</asp:ListItem>
```

```
<br />
    <!-- CheckBox -->
    <asp:CheckBox ID="chkShow" runat="server" Text="Show selected fruit"
Checked="true"
/>
    <br /><br />
    <!-- Calendar -->
    <asp:Label ID="Label2" runat="server" Text="Pick a date:"></asp:Label><br />
<asp:Calendar ID="calDate" runat="server"></asp:Calendar>
    <br />
    <!-- Button -->
    <asp:Button ID="btnShow" runat="server" Text="Show Selection"
OnClick="btnShow_Click" />
    <br /><br />
    <!-- Output Label -->
    <asp:Label ID="lblOutput" runat="server" ForeColor="Green"
Font-Bold="true"></asp:Label>
    </div>
  </form>
</body>
</html>
```





- b. Demonstrate the use of Calendar control to perform following operations.
- i. Display messages in a calendar control

Code

```
Aspx
<%@ Page Language="C#" AutoEventWireup="true" CodeBehind="calendar.aspx.cs"</p>
Inherits="practical4.calendar" %>
<!DOCTYPE html>
<a href="http://www.w3.org/1999/xhtml">
<head runat="server">
 <title></title>
</head>
<body>
 <form id="form1" runat="server">
    <div>
      <h2>Calendar - Display Messages</h2>
      <asp:Calendar ID="Calendar1" runat="server"
OnDayRender="Calendar1 DayRender"></asp:Calendar>
    </div>
 </form>
</body>
</html>
```

Output

Cal	lend	ar -	- Dis	spla	y N	Iess
<		Au	gust 20	025		>
Sun	Mon	Tue	Wed	Thu	Fri	Sat
27	28	29	30	31	1	2
3	4	5	6	7	8	9
10	11	12	13	14	15	16
17	18	19	20	21	22	23
24	25	26	27	28	29	30
31	1	2	3	4	5	6

ii. Display vacation in a calendar control

Code

Aspx

<%@ Page Language="C#" AutoEventWireup="true" CodeBehind="calendar2.aspx.cs" Inherits="practical4.calendar2" %>

<!DOCTYPE html>

```
<html xmlns="http://www.w3.org/1999/xhtml">
<head runat="server">
    <title></title>
</head>
<body>
    <form id="form1" runat="server">
        <div>
```

<h2>Calendar - Vacation Days</h2>

<asp:Calendar ID="Calendar1" runat="server"

OnDayRender="Calendar1_DayRender"></asp:Calendar>

</div>

</form>

</body>

</html>

Output

Calendar - Vacation Days

≤		Α	august 202	25		≥
Sun	Mon	Tue	Wed	Thu	Fri	Sat
27 Vacation	28	<u>29</u>	<u>30</u>	<u>31</u>	<u>1</u>	2 Vacation
3 Vacation	<u>4</u>	<u>5</u>	<u>6</u>	7	8	9 Vacation
10 Vacation	<u>11</u>	<u>12</u>	<u>13</u>	<u>14</u>	<u>15</u>	16 Vacation
17 Vacation	<u>18</u>	<u>19</u>	<u>20</u>	21	<u>22</u>	23 Vacation
24 Vacation	<u>25</u>	<u>26</u>	27	28	<u>29</u>	30 Vacation
31 Vacation	1	<u>2</u>	<u>3</u>	4	<u>5</u>	6 Vacation

iii. Selected day in a calendar control using style

```
Code
Aspx
<%@ Page Language="C#" AutoEventWireup="true" CodeBehind="calendar3.aspx.cs"</p>
Inherits="practical4.calendar3" %>
<!DOCTYPE html>
<html xmlns="http://www.w3.org/1999/xhtml">
<head runat="server">
  <title></title>
</head>
<body>
  <form id="form1" runat="server">
    <div>
      <h2>Calendar - Selected Day Style</h2>
      <asp:Calendar ID="Calendar1" runat="server"
      OnSelectionChanged="Calendar1_SelectionChanged">
    </asp:Calendar>
    <br />
    <asp:Label ID="lbIMessage" runat="server" ForeColor="Blue"
Font-Bold="true"></asp:Label>
    </div>
  </form>
</body>
</html>
```

Output

<		Au	gust 20	025		>
Sun	Mon	Tue	Wed	Thu	Fri	Sat
27	28	29	30	31	1	2
3	4	5	6	7	8	9
10	11	12	13	14	15	16
17	18	19	20	21	22	23
24	25	26	27	28	29	30
31	1	2	3	4	5	6

Calendar - Selected Day Style

≤		≥				
Sun	Mon	Tue	Wed	Thu	Fri	Sat
27	28	<u>29</u>	30	31	1	2
3	4	5	<u>6</u>	7	8	9
10	<u>11</u>	<u>12</u>	13	<u>14</u>	<u>15</u>	16
17	<u>18</u>	19	20	21	22	23
24	<u>25</u>	<u>26</u>	27	28	29	30
31	1	2	<u>3</u>	4	<u>5</u>	6

You selected: 21-08-2025

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Practical 5

Working with Form Controls

a. Create a Registration form to demonstrate use of various Validation controls.

Code

```
Aspx
<%@ Page Language="C#" AutoEventWireup="true" CodeBehind="firstone.aspx.cs"</pre>
Inherits="Practical5.firstone" %>
<!DOCTYPE html>
<a href="http://www.w3.org/1999/xhtml">
<head runat="server">
  <title>Registration Form with Validation</title>
</head>
<body>
  <form id="form1" runat="server">
    <h2>Registration Form</h2>
    <!-- Name -->
Name:
    <asp:TextBox ID="txtName" runat="server"></asp:TextBox>
    <asp:RequiredFieldValidator ID="rfvName" runat="server"
      ControlToValidate="txtName"
      ErrorMessage="Name is required"
      ForeColor="Red" />
    <br /><br />
```

```
<!-- Email -->
Email:
    <asp:TextBox ID="txtEmail" runat="server"></asp:TextBox>
    <asp:RequiredFieldValidator ID="rfvEmail" runat="server"
      ControlToValidate="txtEmail"
      ErrorMessage="Email is required"
      ForeColor="Red" />
    <asp:RegularExpressionValidator ID="revEmail" runat="server"
      ControlToValidate="txtEmail"
      ErrorMessage="Invalid email format"
      ForeColor="Red"
      ValidationExpression="\w+@\w+\.\w+" />
    <br /><br />
    <!-- Password -->
Password:
    <asp:TextBox ID="txtPassword" runat="server" TextMode="Password"></asp:TextBox>
    <asp:RequiredFieldValidator ID="rfvPassword" runat="server"</pre>
      ControlToValidate="txtPassword"
      ErrorMessage="Password is required"
      ForeColor="Red" />
    <asp:CustomValidator ID="cvPasswordLength" runat="server"
ControlToValidate="txtPassword"
      ErrorMessage="Password must be more than 5 characters"
      ForeColor="Red"
      OnServerValidate="cvPasswordLength_ServerValidate" />
<br /><br />
```

```
<!-- Confirm Password -->
Confirm Password:
    <asp:TextBox ID="txtConfirmPassword" runat="server"
TextMode="Password"></asp:TextBox>
    <asp:CompareValidator ID="cvPasswords" runat="server"
      ControlToValidate="txtConfirmPassword"
      ControlToCompare="txtPassword"
      ErrorMessage="Passwords do not match"
      ForeColor="Red" />
    <br /><br />
    <!-- Age -->
    Age:
    <asp:TextBox ID="txtAge" runat="server"></asp:TextBox>
    <asp:RangeValidator ID="rvAge" runat="server"
      ControlToValidate="txtAge"
      MinimumValue="18"
      MaximumValue="60"
      Type="Integer"
      ErrorMessage="Age must be between 18 and 60"
      ForeColor="Red" />
    <br /><br />
    <!-- Submit Button -->
    <asp:Button ID="btnSubmit" runat="server"
      Text="Register"
      OnClick="btnSubmit_Click" />
    <asp:ValidationSummary ID="vsSummary" runat="server"
      ForeColor="Red" />
```

	Message Label
	<asp:label forecolor="Green" id="lbIMessage" runat="server"></asp:label>
<	
<td>oody></td>	oody>
<td>ntml></td>	ntml>

Registration Fo	orm
Name:	Name is required
Email:	Email is requiredInvalid email format
Password:	Password is requiredPassword must be more than 5 characters
Confirm Password:	Passwords do not match
Age:	Age must be between 18 and 60
Register	
 Error message 1. Error message 2.	
[lblMessage]	

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Registration Form Name: Rashmita Email: rashmitagmail.com Invalid email format Password: •• Confirm Password: •• Passwords do not match Age: 17 Age must be between 18 and 60 Register • Invalid email format • Password is required • Age must be between 18 and 60

b. Create Web Form to demonstrate use of Ad rotator Control

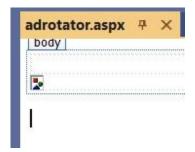
Code Aspx <%@ Page Language="C#" AutoEventWireup="true" CodeBehind="adrotator.aspx.cs" Inherits="richcontrols.adrotator" %> <!DOCTYPE html> <html xmlns="http://www.w3.org/1999/xhtml"> <head runat="server"> <title></title> </head> <body> <form id="form1" runat="server"> <div>

</div>

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<asp:AdRotator ID="AdRotator1" runat="server" AdvertisementFile="~/XMLFile1.xml"</pre>

```
OnAdCreated="AdRotator1 AdCreated1" />
  </form>
</body>
</html>
Xmlfile
<?xml version="1.0" encoding="utf-8" ?>
<Advertisements>
      <Ad>
            <lmageUrl>/images/p1.jpg</lmageUrl>
            <NavigateUrl>https://www.google.com</NavigateUrl>
            <AlternateText>The photo is about colors</AlternateText>
      </Ad>
       <Ad>
             <ImageUrl>/images/p2.jpg</ImageUrl>
       <NavigateUrl>https://www.google.com</NavigateUrl>
            <AlternateText>The photo is about colors</AlternateText>
      </Ad>
      <Ad>
            <ImageUrl>/images/p3.jpg</ImageUrl>
            <NavigateUrl>https://www.google.com</NavigateUrl>
            <AlternateText>The photo is about colors</AlternateText>
      </Ad>
</Advertisements>
```







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c. Create Web Form to demonstrate use of User Controls.

Code

```
Aspx
<%@ Page Language="C#" AutoEventWireup="true" CodeBehind="usercontrol.aspx.cs"</p>
Inherits="Practical5.usercontrol" %>
<!DOCTYPE html>
<a href="http://www.w3.org/1999/xhtml">
<head runat="server">
  <title></title>
</head>
<body>
  <form id="form1" runat="server">
    <div>
      <h2>Enter two numbers to calculate their sum</h2>
      <label for="Label1">Number 1:</label>
      <asp:TextBox ID="TextBox1" runat="server"></asp:TextBox><br /><br />
      <label for="Label2">Number 2:</label>
      <asp:TextBox ID="TextBox2" runat="server"></asp:TextBox><br /><br />
      <asp:Button ID="Button1" runat="server" Text="Submit" OnClick="Button1_Click"
/><br /><br />
      <asp:Label ID="LabelResult" runat="server" Text="Result: "
```

Font-Bold="true">	

Output



Enter two numbers to calculate their sum

Number 1:	8	
Number 2:	8	
Submit		

Result: 16

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Practical 6

Working with Navigation, Beautification and Master page.

a. Create Web Form to demonstrate use of Website Navigation controls and Site Map.

Code

```
Web.Sitemap
<?xml version="1.0" encoding="utf-8" ?>
<siteMap xmlns="http://schemas.microsoft.com/AspNet/SiteMap-File-1.0" >
     <siteMapNode title="Home" url="~/Default.aspx">
           <siteMapNode title="About" url="~/About.aspx" />
            <siteMapNode title="Services" url="~/Services.aspx">
                  <siteMapNode title="Web Development" url="~/WebDev.aspx" />
                   <siteMapNode title="SEO" url="~/SEO.aspx" />
            </siteMapNode>
            <siteMapNode title="Contact" url="~/Contact.aspx" />
      </siteMapNode>
</siteMap>
Aspx
<%@ Page Language="C#" AutoEventWireup="true" CodeBehind="Default.aspx.cs"</p>
Inherits="PRACTICAL6.Default" %>
<!DOCTYPE html>
<a href="http://www.w3.org/1999/xhtml">
<head runat="server">
  <title></title>
</head>
<body>
  <form id="form1" runat="server">
    <h2>Website Navigation</h2>
```

Output



Website Navigation

```
Home ▶ About
Services ▶ Web Development
Hom€ontact SEO
About
Services
Web Development
SEO
Contact
```

b. Create a web application to demonstrate the use of Master Page with applying Styles and Themes for page beautification.

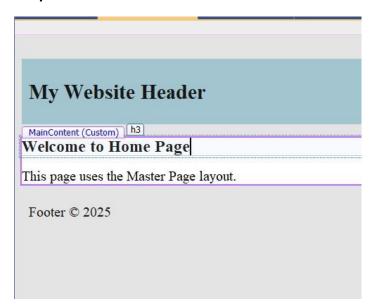
Code

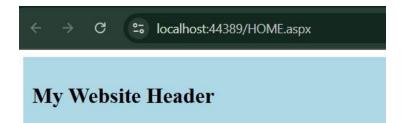
```
Site.Master
<%@ Master Language="C#" AutoEventWireup="true" CodeBehind="Site.master.cs"</p>
Inherits="PRACTICAL6.Site" %>
<!DOCTYPE html>
<!DOCTYPE html>
<a href="http://www.w3.org/1999/xhtml">
<head runat="server">
 <title>Master Page Example</title>
 k href="App_Themes/Default/Style.css" rel="stylesheet" />
</head>
<body>
 <form id="form1" runat="server">
    <div style="background-color:lightblue; padding:10px;">
      <h2>My Website Header</h2>
    </div>
    <asp:ContentPlaceHolder ID="MainContent"
runat="server"></asp:ContentPlaceHolder>
    <div style="background-color:lightgray; padding:10px;">
      Footer © 2025
    </div>
  </form>
```

</body>

</html>

Output





Welcome to Home Page

This page uses the Master Page layout.

Footer © 2025

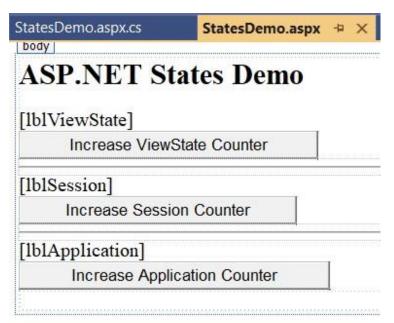
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c. Create a web application to demonstrate various states of ASP.NET Pages.

CODE:

```
ASPX
<%@ Page Language="C#" AutoEventWireup="true" CodeBehind="StatesDemo.aspx.cs"</p>
Inherits="PRACTICAL6.StatesDemo" %>
<!DOCTYPE html>
<a href="http://www.w3.org/1999/xhtml">
<head runat="server">
  <title></title>
</head>
<body>
  <form id="form1" runat="server">
    <h2>ASP.NET States Demo</h2>
    <asp:Label ID="lblViewState" runat="server"></asp:Label><br />
    <asp:Button ID="btnViewState" runat="server" Text="Increase ViewState Counter"
OnClick="btnViewState_Click" />
    <hr />
    <asp:Label ID="lblSession" runat="server"></asp:Label><br />
    <asp:Button ID="btnSession" runat="server" Text="Increase Session Counter"
OnClick="btnSession Click"/>
    <hr />
    <asp:Label ID="lblApplication" runat="server"></asp:Label><br />
    <asp:Button ID="btnApplication" runat="server" Text="Increase Application Counter"
OnClick="btnApplication_Click" />
```

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



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PRACTCAL7

Working with Database (Connected Data Access) a.Write a web application to perform CRUD operation.

Code

```
Aspx
<%@ Page Language="C#" AutoEventWireup="true" CodeBehind="WebForm1.aspx.cs"</pre>
Inherits="practical7 o .WebForm1" %>
<!DOCTYPE html>
<a href="http://www.w3.org/1999/xhtml">
<head runat="server">
  <title>CRUD Operations</title>
</head>
<body>
  <form id="form1" runat="server">
    <div style="margin:20px;">
      <!-- Roll No -->
      <asp:Label ID="Label1" runat="server" Text="Roll No: "></asp:Label>
      <asp:TextBox ID="TextBox1" runat="server"></asp:TextBox>
      <br /><br />
      <!-- Name -->
      <asp:Label ID="Label2" runat="server" Text="Name : "></asp:Label>
      <asp:TextBox ID="TextBox2" runat="server"></asp:TextBox>
      <br /><br />
      <!-- CRUD Buttons -->
```

Name: Paras Chaudhari

Rollno: 8112

```
TYBCA
<asp:Button ID="Button1" runat="server" Text="Insert" OnClick="Button1_Click" />
<asp:Button ID="Button2" runat="server" Text="Update" OnClick="Button2_Click" />
<asp:Button ID="Button3" runat="server" Text="Delete" OnClick="Button3_Click" />
<br/><br/>
<br/>
<br/>
<!-- GridView -->
<asp:GridView ID="GridView1" runat="server" AutoGenerateColumns="True"

BorderStyle="Solid" BorderWidth="1px" CellPadding="5" />
```

</div>

</form>

</body>

</html>

Output

Record inserted.

Roll No: 103

Name: Rashmita

Insert Update Delete

Roll_no Name

101 Raj

102 Rahul

103 Rashmita

Record updated.

Roll No: 102

Name: Riya

Insert Update Delete

Roll_no Name

101 Raj

102 Riya

103 Rashmita

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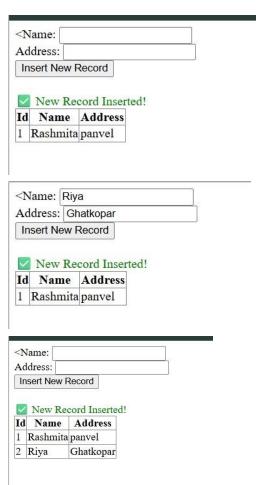
PRACTICAL 8

Create a web application to display Using Disconnected Data Access and a.Data Binding using Grid View.

Code

```
Aspx
<%@ Page Language="C#" AutoEventWireup="true" CodeBehind="WebForm1.aspx.cs"</p>
Inherits="WebApplication4.WebForm1" %>
<!DOCTYPE html>
<a href="http://www.w3.org/1999/xhtml">
<head runat="server">
  <title>Disconnected Data Access Example</title>
</head>
<body>
  <form id="form1" runat="server">
    <div>
      <<asp:Label Text="Name: " runat="server" />
    <asp:TextBox ID="txtName" runat="server"></asp:TextBox>
    <br />
    <asp:Label Text="Address: " runat="server" />
    <asp:TextBox ID="txtAddress" runat="server"></asp:TextBox>
    <br />
    <asp:Button ID="Button1" runat="server" Text="Insert New Record"
OnClick="Button1_Click1" />
    <br /><br />
    <asp:Label ID="lblMessage" runat="server" ForeColor="Green"></asp:Label>
```


<asp:GridView ID="GridView1" runat="server" AutoGenerateColumns="True" />
</div>
</form>
</body>
</html>



PRACTICAL 9

Working with GridView control

A.Create a web application to demonstrate use of GridView button column and GridView events.

B.Create a web application to demonstrate GridView paging and Create your own table format using GridView.

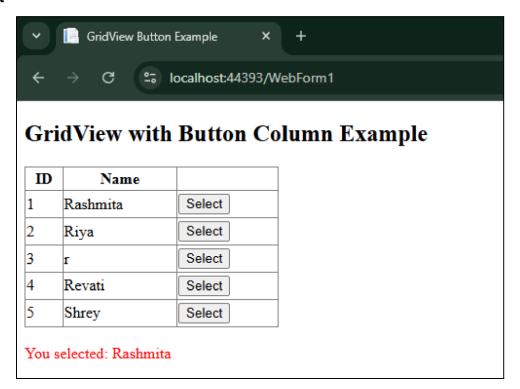
Code

/>

```
Webform.aspx
<%@ Page Language="C#" AutoEventWireup="true" CodeBehind="WebForm1.aspx.cs"</pre>
Inherits="WebApplication3.WebForm1" %>
<!DOCTYPE html>
<a href="http://www.w3.org/1999/xhtml">
<head runat="server">
 <title>GridView Button Example</title>
</head>
<body>
 <form id="form1" runat="server">
    <h2>GridView with Button Column Example</h2>
    <asp:GridView ID="GridView1" runat="server" AutoGenerateColumns="False"
OnRowCommand="GridView1 RowCommand" Height="165px" Width="261px">
     <Columns>
        <asp:BoundField DataField="ID" HeaderText="ID" />
        <asp:BoundField DataField="Name" HeaderText="Name" />
        <asp:ButtonField Text="Select" CommandName="SelectRow" ButtonType="Button"
```

```
</columns>
</asp:GridView>
<br/>
<br/>
<asp:Label ID="lbIMessage" runat="server" ForeColor="Red" />
</form>
</body>
</html>
```

Output



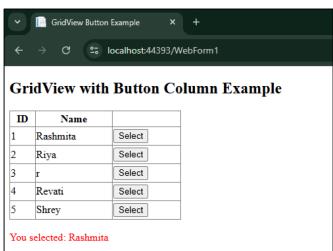
В.

Code

Webform.aspx

```
<%@ Page Language="C#" AutoEventWireup="true" CodeBehind="WebForm1.aspx.cs"
Inherits="WebApplication.WebForm1" %>
<!DOCTYPE html>
```

```
<a href="http://www.w3.org/1999/xhtml">
<head runat="server">
 <title>GridView Paging Example</title>
</head>
<body>
 <form id="form1" runat="server">
    <h2>GridView Paging with Table Format</h2>
    <asp:GridView ID="GridView1" runat="server" AutoGenerateColumns="False"
     Height="160px" Width="185px" AllowPaging="True" PageSize="5"
      OnPageIndexChanging="GridView1_PageIndexChanging">
      <Columns>
        <asp:BoundField DataField="ID" HeaderText="ID" />
        <asp:BoundField DataField="Name" HeaderText="Name" />
      </Columns>
    </asp:GridView>
 </form>
</body>
</html>
```



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