

Basic HTML concepts

Scenario 1: tasked with creating a simple personal web page.

```
<!DOCTYPE html>
```

```
<html lang="en">
```

```
<head>
```

```
<meta charset="UTF-8">
```

```
<title> Personal Page </title>
```

```
</head>
```

```
<body>
```

```
<h1> Your Name </h1>
```

```
<p> This is a brief bio about yourself </p>
```

```
<a href="https://www.yourfavwebsite.com"
```

```
</body>
```

```
</html>
```

O/P

* Webpage will display your name as heading

* Below heading, a brief bio about you name.

* Clickable link that opens new tab

Scenario 2 Image as a clickable link.

```
<!DOCTYPE html>
```

```
<html lang="en">
```

```
<head>
```

```
<meta charset="UTF-8">
```

```
<title> Image link </title>
```

```
</head>
```

```
<body>
```

```
<a href="https://www.targetwebsite.com"
```

```

```

```
</body>
```

```
</html>
```

O/P

~~* Displays a new bar with these: Home, about, contact~~

* Displays an image

* When clicked, they are redirected to a new tab

Scenario 3

```
<!DOCTYPE html>
```

```
<html lang="en">
```

```
<head>
```

```
<meta charset="UTF-8">
```

```
<title> Navigation Bar </title>
```

```
</head>
```

```
<body>
```

```
<ul>
```

```
<li><a href="home.html"> Home </a></li> also
```

```
<li><a href="about.html"> About </a></li>
```

```
<li><a href="contact.html"> Contact </a></li>
```

```
</ul>
```

```
</body>
```

```
</html>
```

O/P

a webpage display
a single nav. bar
with three links:

Home, about &
contact

* structured in
vertical list by
default.

Scenario 4

Student Grades Table

```
<!DOCTYPE html>
```

```
<html lang="en">
```

```
<head>
```

```
<meta charset="UTF-8">
```

```
<title> Student Grades </title>
```

```
</head>
```

```
<body>
```

```
<table border="1">
```

```
<tr>
```

```
<th> ID </th>
```

```
<th> Name </th>
```

<th> Grade </th>

</tr>

<tr>

<td> 102 </td>

<td> Jane Smith </td>

<td> B </td>

</tr>

</table>

</body>

</html>

O/P

* Webpage displays a

table with two columns, ID, Name & Grade

* Includes a header row & two rows of data, for ID, name & grades.

Scenario 5 Product Info. Table with Merged cells.

<!DOCTYPE html>

<html lang="en">

<head>

<meta charset="UTF-8">

<title> Product Table </title>

</head>

<body>

<table border="1">

<tr>

<th colspan="2"> Product Name </th>

<th> Price </th>

<th> Quantity </th>

</tr>

<tr>

<td colspan="2"> Product A </td>

<td> \$100 </td>

<td> 50 </td>

</tr>
</table>
</body>
</html>

O/P a Webpage displays a table
where "Product Name" spans
across 2 columns.
* Displays price & quantity for
each product.

Scenario 6 Employee by Dept. Table with Rowspan

<!DOCTYPE html>
<html lang="en">
<head>

<meta charset="UTF-8">

<title> Employee Table </title> * Dept- column spans
</head> rows, employees
<body> under it, respec-
<table border="1"> tively.

<tr>

<th rowspan="2"> Department </th>

<th> Employee Name </th>

<tr>

<tr>

<td> John Doe </td>

</tr>

<tr>

<td rowspan="3"> Marketing </td>

<td> Jane Smith </td>

</tr>

<tr>

<td> Alice Johnson </td>

</tr>
</table>
</body>
</html>

Navigation Frames with Navigation & Content Areas.

```
<!DOCTYPE html>
<html lang="en">
<head>
```

o/p
Webpage split into left nav. pane & main content area.

```
<meta charset="UTF-8">
<title> Frame Layout </title>
</head>
```

Clicking on links in left updates the content in main area without refreshing the entire page.

```
<frameset cols="20%, 80%">
  <frame src="navigation.html" name="navigation">
  <frame src="content.html" name="content">
</frameset>
</html>
```

Services Frames with Document & Footer

```
<!DOCTYPE html>
<html lang="en">
<head>
```

```
<meta charset="UTF-8">
<title> Frame Layout </title>
</head>
```

```
<frame src="document.html" name="document">
<frame src="footer.html" name="Footer">
</frameset>
```

```
</html>
```

o/p
Webpage divided into top section for main doc. & bottom sec. for footer

* The footer remains visible while doc. is displayed above it.

Scenario Three column Frameset

<!DOCTYPE html>

<html lang="en">

<head>

<meta charset="UTF-8">

<title>Three-column layout </title>

</head>

<frameset cols="200, 200, 200">

<frame src="left.html" name="left-menu.html">

<frame src="main-content.html" name="main-content">

<frame src="right-sidebar.html" name="right-sidebar">

</frameset>

</html>



O/P

* Webpage divided into 3 columns, a left narrow menu, a resizable centre content area & right sidebar.

* Left & right columns have fixed widths, while centre column is flexible.

OBSERVATIONS

1) University Course Reg system.

xhtml code

```
<!DOCTYPE html PUBLIC "-//W3C//DTD XHTML 1.0 Strict//EN"
"http://www.w3.org/TR/xhtml1/DTD/xhtml-strict.dtd">
<html xmlns="http://www.w3.org/1999/xhtml">
```

<head>

<title> University Course Registration </title>

<script type="text/javascript">

function addCourse(courseCode, courseName) {

var table = document.getElementById("courseTable");

var row = table.insertRow(-1);

var cell1 = row.insertCell(0);

var cell2 = row.insertCell(1);

cell1.innerHTML = courseCode;

cell2.innerHTML = courseName;

}

</script>

</head>

<body>

<h1> Available Courses </h1>

<table id="courseTable" border="1">

<tr>

<th> Course Code </th>

<th> Course Name </th>

</tr>

<tr>

<td> CS101 </td>

<td> Introd. to Computer </td>

</tr>

</tr>

```

<td> MAT 201 </td>
<td> Columbus II </td>
</tr>
</table>
<tr> Add new course </tr>
<form onsubmit="addCourse (doc.getElementById('coursecode').value, document.getElementById('courseName').value); return false;">
  course code: <input type="text" id="course"/> submit
  course Name: <input type="text" id="course"/> </tr>
  <input type="submit" value="Add course">
</form>
</body>
</html>

```

O/P

course code	Name
CS101	C.S
MAT 201	Columbus II
PHY 301	physics III

2) Respons. Blog layout (css)

```

<!DOCTYPE html>
<html lang="en">
<head>
  <meta charset="UTF-8">
  <meta name="viewport" content="width=device-width, initial-scale=1.0">

```

```

</head>
<body>
  <header>
    <h1> My Blog </h1>
    <nav>
      <ul>
        <li> <a href="#"> Home </a> </li>
        <li> <a href="#"> About </a> </li>
        <li> <a href="#"> Contact </a> </li>
      </ul>
    </nav>
  </header>
  <div class="container">
    <aside>
      <h2> Sidebar </h2>
      <p> Sidebar content goes here. </p>
    </aside>
    <main>
      <h2> Main Content </h2>
      <p> Main blog. </p>
    </main>
  </div>
  <footer>
    <p> Copyright: 2024 My Blog </p>
  </footer>
</body>
</html>

```


1. Header / Contact
 2. Main - Contact
 - Blog post goes here
 Footer

© 2024 My Blog

3) Real-time Stock Price Viewer (AJAX)

1. `<!DOCTYPE html>`

`<html lang="en">`

`<head>`

`<meta charset="UTF-8">`

`<meta name="viewport" content="width=device`

`width=device-width, initial-scale=1.0">`

`<title> Stock Price Viewer </title>`

`<script type="text/javascript">`

`function fetchStockPrice() {`

`var xhr = new XMLHttpRequest();`

`xhr.open("GET", "https://api.example.com", true);`

`xhr.onreadystatechange = function() {`

`if (xhr.readyState == 4 && xhr.status == 200) {`

`document.getElementById("stockPrice").innerHTML`

`= xhr.responseText;`

`xhr.send();`

`}`

`</script>`

`</head>`

`<body>`

`<div> Real-Time Stock Price Viewer </div>`

`<button onclick="fetchStockPrice()"> Fetch Stock Price </button>`

`<p id="stockPrice"> Click button for API </p>`

`</body>`

`</html>`

2. `<script>`

`currentStockPrice: 1500.23`

4) Online shopping cart system.

1. `<!DOCTYPE html>`

`<html lang="en">`

`<head>`

`<meta charset="UTF-8">`

`<meta name="viewport" content="width=device-width, initial-scale=1.0">`

`<title> Shopping Cart </title>`

`<script type="text/javascript">`

`var cart = [];`

`function addToCart(itemId, itemName, price, quantity) {`

`{`

`var item = cart.find(item => item.id === itemId);`

`if (item) {`

```

item.quantity += quantity;
} else {
    cart.push({id: itemId, name: itemName, price, quantity: quantity});
}
displayCart();

```

```

function displayCart() {
    var cartList = document.getElementById('cart');
    cartList.innerHTML = '';
    var totalPrice = 0;
    cart.forEach(function(item) {
        cartList.innerHTML += item.name +
    }
    document.innerHTML += '<strong>Total: $'

```

```

</script>
<head>
<body>
    <h1>Online Shop </h1>
    <button onclick="addToCart(1, Laptop, 100, 1)">
        Add Laptop </button>
    <button onclick="addToCart(2, Phone, 500, 1)">
        Add Phone </button>
    <h2>Shopping Cart </h2>
    <div id="cart"></div>
</body>
</html>

```

OP
 Last Example of Adding 2 items:
 Laptop (x1) - \$1000
 Phone (x1) - \$500
 Total = \$1500

OBSERVATIONS

1) Responsive Nav. bar (Restaurant Website)
 <!DOCTYPE html>
 <html lang="en">
 <head>
 <meta charset="UTF-8">
 <meta name="viewport" content="width=device-width, initial-scale=1.0">
 <title> Responsive Nav. Bar </title>
 <link rel="stylesheet" href="styles.css">
 <head>
 <body>
 <nav class="navbar">
 <div class="brand-title"> Restaurant </div>
 ☰

 <div class="navbar-links" id="navbar-links">

 Home
 Menu

```
<!-- ca href="#about Ns <a> </i>
```

```
<!-- ca href="#contact <a> </i>
```

```
</ul>
```

```
</div>
```

```
</nav>
```

```
<script>
```

```
function toggleMenu() {
```

```
const menu=document.getElementById("navheader")
```

```
menu.classList.toggle("active");
```

```
}
```

```
</script>
```

```
</body>
```

```
</html>
```

2/2

Restaurant Home Menu About Us Contact

Registration Form

Username:

Email:

Password:

Confirm Pass

Register

2) Registration Form with Validation

```
<!doctype html>
```

```
<html lang="en">
```

```
<head>
```

```
<meta charset="UTF-8">
```

```
<meta name="viewport" content="width=device-width">
```

```
<title>Registration Form </title>
```

```
<script src="validation.js"></script>
```

```
</head>
```

```
<body>
```

```
<form id="RegForm" onSubmit="return validateForm()">
```

```
<label for="username">Username:</label>
```

```
<input type="text" id="username" name="username"
```

```
required><br><br>
```

```
<label for="email">Email:</label>
```

```
<input type="email" id="email" name="email" required
```

```
><br><br>
```

```
<label for="password">Password:</label>
```

```
<input type="password" id="password" name="password" required><br><br>
```

```
<label for="confirmPassword">Confirm Password:</label>
```

```
<input type="password" id="confirmPw" name="confirmPw" required><br><br>
```

```
<input type="submit" value="Register">
```

```
<div id="errorMessage" style="color:red"></div>
```

```
</form>
```

```
</body>
```

```
</html>
```

2/P Registration Form

Username =

Email =

Password =

Confirm Pw =

Submit

3) Real-Time Stock Price Viewer with AJAX

<DOCTYPE html>

<html lang="en">

<head>

<meta charset="UTF-8">

<meta name="viewport" content="width=device-width, initial-scale=1.0">

<title> Stock Price Viewer </title>

<script src="stock.js"></script>

<body>

<div>

<button id="loadStockData" onclick="loadStockData()">Load Stock Price </button>

<div id="stockPrice"></div>

</body>

</html>

2/P Current stock Price \$150.25

4) JSP Workshop Reg.

<%@ page contentType="text/html; charset=UTF-8" %>

<language="java" %>

<html>

<head>

<title> Workshop Registration </title>

</head>

<body>

<%
String name = request.getParameter("name")

String email = request.getParameter("email");

String course = request.getParameter("course");

%>

<h1> Workshop Registration </h1>

<form method="post" action="">

Name: <input type="text" name="name" required>

Email: <input type="email" name="email" required>

Course: <input type="text" name="course" required>

<input type="submit" value="Submit">

</form>

<? if (name != null & email != null & course != null)
 do { course != null } & %> <hr> submitted
 Information: </hr>
 Name: <? if (name != null) %> <hr>
 email: <? if (email != null) %> <hr>
 Course: <? if (course != null) %> <hr> <? %>
 <hr> <? %>
 <? %> No info. submitted yet. </p>
 <? %>
 </body>
 </html>

0/p
 Name:
 Email:
 Course:
 [Submit]

5) Library Book

<?xml version="1.0"
 encoding="UTF-8"?>

<library>
 <book>

<title>The Great Gatsby</title>

<author>F. Scott Fitzgerald</author>

<isbn>97804514201</isbn>

<publication year>1925</publ. year>

<genre>Fiction</genre>

<availability status>Available</avail. status>

</book>

</library>

<title>The Great Gatsby</title>

<author>George</author>

<isbn>97804514201</isbn>

<publ. year>1925</pub. year>

<genre>Dystopian</genre>

<availability status>Checked out</availability status>

</book>

</library>

0/p

- ISBN is 13 digit no.
- publication year is 4 digit
- Availability status is either "Available" or "checked out".

6) XML for New Articles

<?xml version="1.0"

encoding="UTF-8"?>

<articles>

<article>

<title>Bleeding New: Mayan Bird</title>

<author> Jane Doe </author>
 <date> 2024-9-14 </date>
 <title> Technology </title>
 <author> John </author>
 <date> 2024-9-13 </date>
 </article>
 </articles>

O/P
 XSLT transform XML data into clean & readable
 HTML format
 John Doe
 2024-9-14
 John

7) XSLT Transformation for New Articles
 <?xml version="1.0"
 encoding="UTF-8"?>
 <xsl:stylesheet
 xmlns:xsl="http://www.w3.org/1999
 version="1.0">
 <xsl:template match="/">
 <html>
 <head>
 <title> New Articles </title>
 </head>
 <body>

<xsl: for each select="articles"
 <h1> <xsl:value-of
 select="title"/> </h1>
 <h3> <xsl:value-of select="date"/> </h3>
 <h4> By <xsl:value-of select="author"/> </h4>
 </body>
 </html>
 </xsl:templates>
 </xsl:stylesheet>

O/P
 Technology Updates:
 New Gadget Released
 2024-9-13
 Mary
 covers the latest trends