
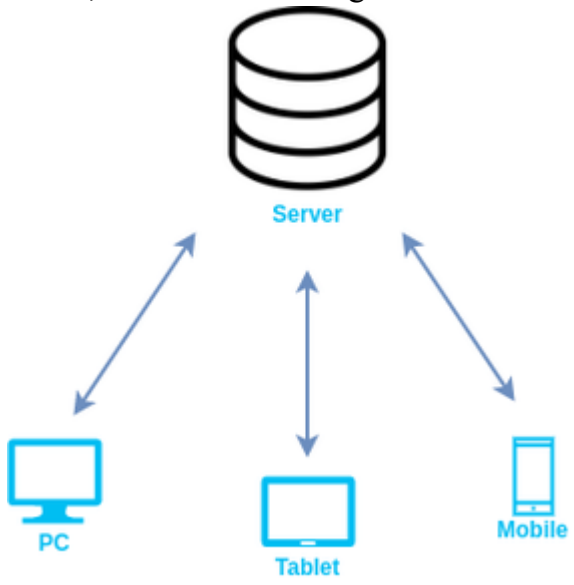


CMR INSTITUTE OF TECHNOLOGY	USN <table><tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr></table>											

Internal Assessment Test –I, February 2025				
Sub:	Web Technologies	Code:	MMC105	
Answer Key		Marks	OBE	
			CO	RBT
1	<p>Briefly explain the following i) Web browsers ii) URL iii) MIME.</p> <p>A web browser is a software application that facilitates access to the World Wide Web (WWW) by acting as an intermediary between the client (user) and the server. It enables users to request web documents and services from servers, interprets the received data (usually in HTML), and renders it as a user-friendly web page containing text, images, links, and interactive elements. Common web browsers include Google Chrome, Mozilla Firefox, Safari, and Microsoft Edge.</p> <div style="text-align: center;">  <pre> graph TD Server[Server] <--> PC[PC] Server <--> Tablet[Tablet] Server <--> Mobile[Mobile] </pre> </div> <p>History of Web Browsers</p> <ol style="list-style-type: none"> WorldWideWeb (1990): Invented by Tim Berners-Lee; later renamed Nexus. First web browser and editor. Netscape Navigator (1994): An advanced version of Mosaic, developed by Marc Andreessen. Played a major role in the browser wars of the 1990s. Internet Explorer (1995): Launched by Microsoft as the default browser for Windows OS. Dominated the market for years. 	[10]	CO1	L1

4. Modern Browsers:

Mozilla Firefox, Google Chrome, Safari, Opera, and others followed, each offering unique features like speed, privacy, and integration.

● **URL**

A URL (Uniform Resource Locator) is the unique address used to identify and access resources on the internet, such as web pages, files, or images. It specifies where a resource is located and how to retrieve it.

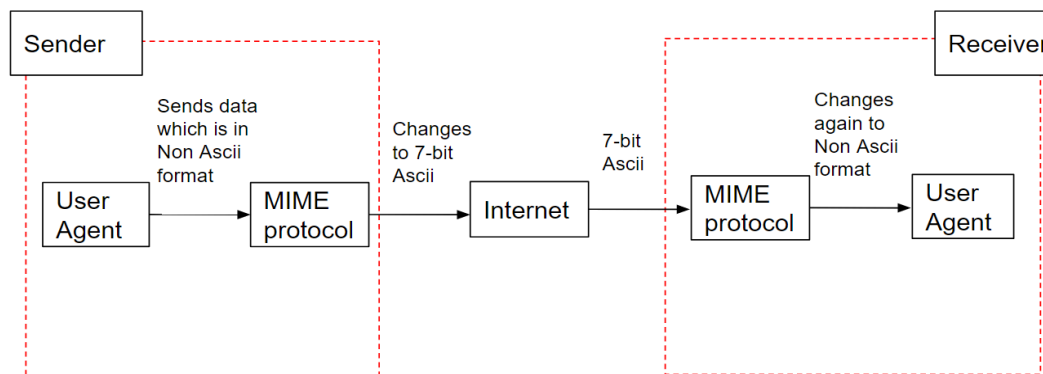
Components of a URL

1. Protocol:
Indicates the communication protocol to use (e.g., HTTP, HTTPS, FTP).
2. Domain:
Identifies the server hosting the requested resource.
Can be a human-readable name (e.g., example.com) or an IP address (e.g., 192.168.1.1).
Case insensitive.
3. Port (Optional):
Specifies the port number to connect to on the server.
Default ports are determined by the protocol:
HTTP: Port 80.
HTTPS: Port 443.
Non-default ports can be specified using a colon after the domain, e.g., http://example.com:888/.
4. Path (Optional):
Represents the location of a file or directory on the server.
Follows the domain, e.g., http://example.com/**files/image.jpg**.
Case-sensitive on most servers (except some Windows-based servers).
If not specified, the server serves the default file (e.g., index.html or default.html).
5. Query String (Optional):
Provides key-value pairs for additional information, often from user input or form submissions.
Begins with a ? symbol, with key-value pairs separated by &.
Example:
http://example.com/page?username=john&password=abc123.

● **MIME**

What is MIME?

MIME stands for Multipurpose Internet Mail Extensions, a standard that extends the format of email to support text in different character sets, attachments such as images, audio, video, and application files, and other multimedia formats. Although originally developed for email, MIME types are now widely used in the context of the Web, where they describe the nature and format of a file or data.



Key Features of MIME

- Content Description:**
Specifies the type of data being sent.
Examples: Text, image, video, audio, etc.
- Encodings:**
Allows non-text data to be encoded in text-based formats for transmission (e.g., Base64).
- Multipart Messages:**
Supports messages with multiple parts (e.g., an email with both text and an attachment).
- Cross-Application Usage:**
Used by web browsers, servers, and email clients to handle and interpret file formats correctly.

MIME in HTTP(Hyper Text Transfer Protocol)

In the context of the web, MIME types are used to indicate the type of content being transferred over HTTP. They are sent via the Content-Type header in HTTP responses.

Examples of MIME Types:

MIME Type	Description
text/html	HTML documents

text/css	Cascading Style Sheets (CSS)
application/json	JSON data
application/javascript	JavaScript files
image/jpeg	JPEG images
image/png	PNG images
audio/mpeg	MP3 audio files
video/mp4	MP4 video files
application/pdf	PDF documents
application/octet-stream	Arbitrary binary data

2

List and Explain different types of lists in HTML with an example.

● **Lists**

In HTML5, lists are used to group related items. There are three main types of lists, each with different attributes and use cases:

1. Unordered List ()
2. Ordered List ()
3. Description List (<dl>)

Each type of list can have various attributes, although the list element itself has only a few that directly impact its appearance or behavior. Let's explore these lists and attributes with examples.

1. Unordered List ()

An unordered list is used when the order of items doesn't matter. By default, items in an unordered list are displayed with bullets.

Attributes:

- type: The type attribute specifies the bullet style. It's applicable only to unordered lists.
 - o type="disc" (default, filled circle)
 - o type="circle" (hollow circle)
 - o type="square" (square bullet)

Example:

```
<ul type="square">
  <li>Item 1</li>
  <li>Item 2</li>
  <li>Item 3</li>
</ul>
```

[10]

CO2

L2

- Result: A list with square bullets.
-

2. Ordered List ()

An ordered list is used when the sequence of items is important. It is automatically numbered by default, but the numbering style can be modified.

Attributes:

type: Specifies the numbering style.

type="1" (default, decimal numbering)

type="A" (uppercase letters)

type="a" (lowercase letters)

type="I" (uppercase Roman numerals)

type="i" (lowercase Roman numerals)

start: Specifies the starting value for the list. By default, it starts at 1.

reversed: If present, the list will display in reverse order.

Example:

```
<ol type="A" start="5" reversed>
```

```
<li>Item 5</li>
```

```
<li>Item 6</li>
```

```
<li>Item 7</li>
```

```
</ol>
```

- Result: An ordered list starting at 5, using uppercase letters, and in reverse order (7, 6, 5).
-

3. Description List (<dl>)

A description list is used to group terms and their definitions. It doesn't have the same numbering or bullet attributes as the other list types.

Attributes:

- <dt>: Specifies the term (item) being defined.

- <dd>: Specifies the description of the term.

Example:

```
<dl>
```

```
<dt>HTML</dt>
```

```
<dd>HyperText Markup Language, used to structure web content.</dd>
```

	<pre> <dt>CSS</dt> <dd>Cascading Style Sheets, used to style web content.</dd> <dt>JavaScript</dt> <dd>A programming language used for dynamic web content.</dd> </dl> </pre> <p>Result: A list of terms with their descriptions.</p> <p>Nested Lists</p> <p>You can create nested lists (a list inside another list) to represent more complex structures.</p> <p>Example (Ordered list nested inside an Unordered list):</p> <pre> Groceries Milk Eggs Bread Household Items Toilet Paper Soap </pre> <p>Example (Unordered list inside an Ordered list):</p> <pre> First item Sub-item 1 Sub-item 2 Second item </pre>			
3	<p>Create a Registration form to accept name, gender, date of birth, qualification,address and provide Reset and Submit buttons.</p> <pre> <!DOCTYPE html> <html lang="en"> <head> <meta charset="UTF-8"> <meta name="viewport" content="width=device-width, initial-scale=1.0"> </pre>	[10]	CO1	L3

	<pre> <title>Registration Form</title> </head> <body> <h2>Registration Form</h2> <form> <label for="name">Name:</label> <input type="text" id="name" name="name" required>

 <label for="gender">Gender:</label> <input type="radio" id="male" name="gender" value="Male"> Male <input type="radio" id="female" name="gender" value="Female"> Female <input type="radio" id="other" name="gender" value="Other"> Other

 <label for="dob">Date of Birth:</label> <input type="date" id="dob" name="dob" required>

 <label for="qualification">Qualification:</label> <input type="text" id="qualification" name="qualification" required>

 <label for="address">Address:</label> <textarea id="address" name="address" rows="4" cols="30" required></textarea>

 <input type="reset" value="Reset"> <input type="submit" value="Submit"> </form> </body> </html> </pre>			
4	<p>Discuss ID and Class selectors of CSS Explain its usage with an example.</p> <p><u>Selectors</u></p> <p>CSS Selector</p> <p>CSS selectors are used <i>to select the content you want to style</i>. Selectors are the part of CSS rule set. CSS selectors select HTML elements according to its id, class, type, attribute etc.</p> <p>1) CSS Id Selector</p> <p>The id selector selects the id attribute of an HTML element to select a specific element. An id is always unique within the page so it is chosen to select a single, unique element.</p> <p>It is written with the hash character (#), followed by the id of the element.</p> <p>Let's take an example with the id "para1".</p> <pre> <!DOCTYPE html> <html> <head> <style> </pre>	[10]	CO2	L1

```
#para1 {
    text-align: center;
    color: blue;
}
</style>
</head>
<body>
<p id="para1">Hello Javatpoint.com</p>
<p>This paragraph will not be affected.</p>
<h1 id="para1">cmrit</h1>
</body>
</html>
```

Output:-

Hello Javatpoint.com

2) CSS Class Selector

The class selector selects HTML elements with a specific class attribute. It is used with a period character . (full stop symbol) followed by the class name.

Example:-

```
<!DOCTYPE html>
<html>
<head>
<style>
.center {
    text-align: center;
    color: blue;
}
</style>
</head>
<body>
<h1 class="center">This heading is blue and
center-aligned.</h1>
<p class="center">This paragraph is blue and
center-aligned.</p>
</body>
</html>
```

Output:-

This heading is blue and center-aligned.


```
padding-left: 20px; /* Adds 20px padding to the left only */
```

```
}
```

3. **Border**

A line surrounding the padding and content.

Size controlled by: border-width, border-style, border-color.

Property:-

```
border-width
```

```
border-style (e.g., solid, dashed, dotted, none)
```

```
border-color
```

Example:-

```
border: 2px solid black;
```

```
div
```

```
{
```

```
border: 2px solid black; /* 2px solid border */
```

```
border-radius: 10px; /* Rounded corners */
```

```
}
```

4. **Margin**

The space between the element and its neighboring elements.

Size controlled by: margin property.

Property:-

```
margin-top
```

```
margin-right
```

```
margin-bottom
```

```
margin-left
```

```
margin: 20px;
```

Example:

```
div {  
  
margin: 15px; /* Adds 15px margin on all sides */  
  
margin-top: 20px; /* Adds 20px margin to the top only  
*/  
  
}
```

Box Sizing

- The `box-sizing` property defines whether the `width` and `height` include the padding and border or not.

```
div {  
  
box-sizing: border-box; /* Includes padding and border  
in width/height */  
  
}
```

Example:-

```
div {  
  
width: 200px;  
  
height: 100px;  
  
padding: 10px;  
  
border: 5px solid black;  
  
margin: 20px;  
  
box-sizing: border-box;  
  
}
```

Levels of CSS

CSS can be added to HTML documents in 3 ways:

- Inline - by using the style attribute inside HTML elements
- Internal - by using a <style> element in the <head> section
- External - by using a <link> element to link to an external CSS file

Inline CSS

An inline CSS is used to apply a unique style to a single HTML element.

An inline CSS uses the style attribute of an HTML element.

The following example sets the text color of the <h1> element to blue, and the text color of the <p> element to red:

Example:-

```
<h1 style="color:blue;">A Blue Heading</h1>
<p style="color:red;">A red paragraph.</p>
```

[10]

CO2

L2

Internal CSS

An internal CSS is used to define a style for a single HTML page.

An internal CSS is defined in the <head> section of an HTML page, within a <style> element.

The following example sets the text color of ALL the <h1> elements (on that page) to blue, and the text color of ALL the <p> elements to red. In addition, the page will be displayed with a "blue" background color:

Example:-

```
<!DOCTYPE html>
<html>
<head>
<style>
body {background-color: blue;}
```

```
h1 {color: blue;}
p {color: red;}
</style>
</head>
<body>

<h1>This is a heading</h1>
<p>This is a paragraph.</p>

</body>
</html>
```

External CSS

An external style sheet is used to define the style for many HTML pages.

To use an external style sheet, add a link to it in the <head> section of each HTML page:

Example:-

```
<!DOCTYPE html>
<html>
<head>
  <link rel="stylesheet" href="styles.css">
</head>
<body>

<h1>This is a heading</h1>
<p>This is a paragraph.</p>

</body>
</html>
```

The external style sheet can be written in any text editor. The file must not contain any HTML code, and must be saved with a .css extension.

Here is what the "styles.css" file looks like:

styles.css

```
body {
  background-color: powder blue;
}
```

	<pre> h1 { color: blue; } p { color: red; } </pre>			
7	<p>Write a HTML document that defines a table with columns and rows. There must be at least three rows. Include cellpadding and cellspacing attributes.</p> <pre> <!DOCTYPE html> <html lang="en"> <head> <meta charset="UTF-8"> <meta name="viewport" content="width=device-width, initial-scale=1.0"> <title>HTML Table Example</title> </head> <body> <h2>Sample Table</h2> <table border="1" cellpadding="10" cellspacing="5"> <tr> <th>Name</th> <th>Age</th> <th>City</th> </tr> <tr> <td>Alice</td> <td>25</td> <td>New York</td> </tr> <tr> <td>Bob</td> <td>30</td> <td>Los Angeles</td> </tr> <tr> <td>Charlie</td> <td>28</td> <td>Chicago</td> </tr> </table> </body> </html> </pre>	[10]	CO1	L3
8	<p>Explain the different form widgets created using <input> tag.</p> <ul style="list-style-type: none"> Text Input (<input> element) 	[10]	CO2	L1

	<p>The <code><input></code> element is the most versatile and commonly used form element. The <code>type</code> attribute specifies what kind of data the input should accept.</p> <p>Examples:</p> <ul style="list-style-type: none">● Text Input (<code>type="text"</code>): A single-line text box for the user to enter short text. <pre><input type="text" id="name" name="name" placeholder="Enter your name" required></pre> <ul style="list-style-type: none">● Password Input (<code>type="password"</code>): Similar to text input, but hides the input text (for sensitive data like passwords). <pre><input type="password" id="password" name="password" placeholder="Enter your password" required></pre> <ul style="list-style-type: none">● Email Input (<code>type="email"</code>): Validates that the input matches the format of an email address (e.g., <code>user@example.com</code>). <pre><input type="email" id="email" name="email" placeholder="Enter your email" required></pre> <ul style="list-style-type: none">● Number Input (<code>type="number"</code>): Restricts input to numerical values. <pre><input type="number" id="age" name="age" min="18" max="100" required></pre> <ul style="list-style-type: none">● min and max: Specify the minimum and maximum acceptable values for number inputs. <p>2. Textarea (<code><textarea></code> element)</p> <p>The <code><textarea></code> element allows users to input multi-line text, making it suitable for messages, comments, or descriptions.</p> <pre><textarea id="message" name="message" rows="4" cols="50" placeholder="Enter your message here" required></textarea></pre> <ul style="list-style-type: none">● rows: Specifies the visible number of lines in the text box.● cols: Specifies the visible width of the text box in characters. <p>3. Checkbox (<code><input type="checkbox"></code>)</p> <p>Checkboxes allow users to select one or more options. Each checkbox has a unique name attribute, but they can share the same name if they are part of a group.</p> <pre><input type="checkbox" id="subscribe" name="subscribe" value="yes"> <label for="subscribe">Subscribe to newsletter</label></pre>			
--	---	--	--	--

	<p>4. Radio Button (<input type="radio">)</p> <p>Radio buttons are used to allow users to select one option from a group. Radio buttons with the same name are grouped together, so only one option can be selected at a time.</p> <pre><input type="radio" id="male" name="gender" value="male"> <label for="male">Male</label> <input type="radio" id="female" name="gender" value="female"> <label for="female">Female</label></pre> <ul style="list-style-type: none">● name: All radio buttons in the same group must share the same name to ensure only one option is selected.																					
9	<p>Explain Arithmetic operators with examples.</p> <p>Java Arithmetic Operators</p> <p>Arithmetic operators in Java are used to perform mathematical operations such as addition, subtraction, multiplication, division, and modulus.</p> <table><tr><th>Operator</th><th>Description</th><th>Example</th></tr><tr><td>+</td><td>Addition</td><td>a + b</td></tr><tr><td>-</td><td>Subtraction</td><td>a - b</td></tr><tr><td>*</td><td>Multiplication</td><td>a * b</td></tr><tr><td>/</td><td>Division</td><td>a / b</td></tr><tr><td>%</td><td>Modulus (Remainder)</td><td>a % b</td></tr></table> <p>Examples in Java</p> <pre>public class ArithmeticOperators { public static void main(String[] args) { int a = 20, b = 10; // Addition System.out.println("Addition: " + (a + b)); // Output: 30 // Subtraction System.out.println("Subtraction: " + (a - b)); // Output: 10 // Multiplication System.out.println("Multiplication: " + (a * b)); // Output: 200 // Division System.out.println("Division: " + (a / b)); // Output: 2 // Modulus (Remainder)</pre>	Operator	Description	Example	+	Addition	a + b	-	Subtraction	a - b	*	Multiplication	a * b	/	Division	a / b	%	Modulus (Remainder)	a % b	[10]	CO2	L2
Operator	Description	Example																				
+	Addition	a + b																				
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*	Multiplication	a * b																				
/	Division	a / b																				
%	Modulus (Remainder)	a % b																				

	<pre> System.out.println("Modulus: " + (a % b)); // Output: 0 } } </pre>			
10	<p>Explain Text properties with examples.</p> <p>1. - Bold Text</p> <p>The tag is used to bold the text. However, it does not provide any semantic meaning. For semantically meaningful bold text, the tag should be used.</p> <p>Example:</p> <p><p>This is bold text.</p></p> <p>2. - Strong Importance (Bold)</p> <p>The tag is used for text that has strong emphasis, typically rendered as bold. It is semantically meaningful, indicating that the text is of particular importance.</p> <p>Example:</p> <p><p>This is important text.</p></p> <p>3. <i> - Italic Text</p> <p>The <i> tag is used to italicize text. It does not provide semantic meaning, and is often used for stylistic purposes.</p> <p>Example:</p> <p><p>This is <i>italicized</i> text.</p></p> <p>4. - Emphasized Text (Italic)</p> <p>The tag is used for text that should be emphasized, typically rendered as italic. It is semantically meaningful, indicating that the text should be stressed.</p> <p>Example:</p> <p><p>This is emphasized text.</p></p> <p>5. <u> - Underlined Text</p> <p>The <u> tag is used to underline text. It is typically used for links but can also be used for general emphasis in text.</p> <p>Example:</p> <p><p>This is <u>underlined</u> text.</p></p>	[10]	CO2	L2

6. <mark> - Highlighted Text

The <mark> tag is used to highlight text, usually with a yellow background, to indicate that it's important or relevant, such as search results.

Example:

```
<p>This is some <mark>highlighted</mark> text.</p>
```

7. <small> - Small Text

The <small> tag is used to display text in a smaller font size. It can be used to indicate footnotes, fine print, or side information.

Example:

```
<p>This is <small>smaller</small> text.</p>
```

8. - Deleted Text

The tag is used to indicate that a portion of the text has been deleted or is no longer relevant. It is usually displayed with a strikethrough.