

HTML Notes

1. Introduction to HTML

- **Definition:**
HTML (HyperText Markup Language) is the standard language used to **create web pages**.
- **Role:**
Defines the **structure and content** of a webpage (not styling → done with CSS, not behavior → done with JavaScript).
- **Basic Structure of an HTML Document:**
 - `<!DOCTYPE html>`
 - `<html>`
 - `<head>`
 - `<title>My First Page</title>`
 - `</head>`
 - `<body>`
 - `<h1>Hello, World!</h1>`
 - `<p>This is a paragraph.</p>`
 - `</body>`
 - `</html>`
- **Key Parts:**
 - `<!DOCTYPE html>` → Defines document type.
 - `<html>` → Root element.
 - `<head>` → Metadata (title, styles, scripts).
 - `<body>` → Visible content of webpage.

2. Text Formatting & Links

Text Formatting Tags

- `<h1> ... <h6>` → Headings (H1 = largest, H6 = smallest).

- `<p>` → Paragraph.
- `` / `` → Bold text.
- `<i>` / `` → Italics / emphasized.
- `<u>` → Underlined.
- `
` → Line break.
- `<hr>` → Horizontal line.
- `<small>`, `<mark>`, `<sup>`, `<sub>` → Special formatting.

Example:

`<h1>Main Title</h1>`

`<p>This is bold, italic, and underlined.</p>`

Links

- `Link Text` → Creates hyperlinks.
- Attributes:
 - `href` → Target URL.
 - `target="_blank"` → Opens link in new tab.
 - `title` → Tooltip text.

Example:

`Visit Google`

3. Images

- **Tag:** `` (self-closing).
- Attributes:
 - `src` → Image path/URL.
 - `alt` → Alternative text (important for accessibility).
 - `width`, `height` → Image size.

Example:

``

4. Multimedia & Tables

Multimedia

- **Audio:**
- `<audio controls>`
- `<source src="song.mp3" type="audio/mpeg">`
- Your browser does not support audio.
- `</audio>`
- **Video:**
- `<video width="400" controls>`
- `<source src="movie.mp4" type="video/mp4">`
- Your browser does not support video.
- `</video>`

Tables

- Tags: `<table>`, `<tr>` (row), `<td>` (data), `<th>` (header).
- Attributes: border, cellpadding, cellspacing (or use CSS).

Example:

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

```
<tr>
```

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

```
<th>Age</th>
```

```
</tr>
```

```
<tr>
```

```
<td>Alice</td>
```

```
<td>21</td>
```

```
</tr>
```

```
<tr>
```

```
<td>Bob</td>
```

```
<td>22</td>
```

</tr>

</table>

5. Forms and Input Elements

- Forms collect user input.
 - **Basic Structure:**
 - `<form action="/submit" method="post">`
 - `<label>Name:</label>`
 - `<input type="text" name="username">
`
 -
 - `<label>Password:</label>`
 - `<input type="password" name="password">
`
 -
 - `<label>Gender:</label>`
 - `<input type="radio" name="gender" value="male"> Male`
 - `<input type="radio" name="gender" value="female"> Female
`
 -
 - `<label>Hobbies:</label>`
 - `<input type="checkbox" name="hobby" value="reading"> Reading`
 - `<input type="checkbox" name="hobby" value="sports"> Sports
`
 -
 - `<input type="submit" value="Submit">`
 - `</form>`
 - **Common Input Types:**
 - text, password, email, number, date, file, checkbox, radio, submit.
 - `<textarea>` → Multi-line input.
 - `<select>` with `<option>` → Dropdown.
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6. Advanced HTML & Best Practices

Advanced HTML Features

- **Semantic HTML** → Tags with meaning:
 - <header>, <footer>, <nav>, <article>, <section>, <aside>.
 - Helps with SEO & accessibility.
- **Iframes** → Embed another page.
- <iframe src="https://www.wikipedia.org" width="600" height="400"></iframe>
- **Canvas & SVG** → For graphics & animations.
- **Meta Tags** → Page metadata inside <head>.

Best Practices

- Always use alt for images (for accessibility).
- Use **semantic tags** instead of just <div>.
- Keep code **indented and readable**.
- Use **external CSS & JS files** instead of inline code.
- Validate HTML with W3C Validator.