SWD

Video Summary Notes

✡ How websites work.

Restaurant analogy

Client (You)	Browser (waiter)	Server (kitchen)

HTML/CSS/JS (Food)

Client requests site via browser, which fetches data from server (Node.js / PHP / Django + database).
Server sends HTML/CSS/JS bundle; browser renders it.

✡ Frontend Trio.

HTML (Structure: content and elements)

CSS (Beauty: Colors and layouts)

JS (Brain: Dynamic magic)

[No perfection required. 80% HTML, 50-70% CSS/JS to start projects. Just begin!]

✡ Git and Github desktop.

- Initialise repositories for source code management.
- Commit, push and pull changes seamlessly.
- Version control of collaborative projects.

✡ VS code extensions.

VS code icons: file and folders
Github theme: dark theme matching Github
Material theme: beautiful UI customisation.
Prettier: auto code formatting.
ES7+ React snippets: React shortcuts.
Live preview: Real time browser reload.

✡ Core concepts.

- File structure & linking

index.html:

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

```
<body>
  <script src = " script.js "> </script>
</body>
</html>
```

[Element] accelerates coding:

div.container > p.title => complete the HTML structure instantly.

* Live preview workflow.

Save file: live preview auto refreshes browser
Real time visual feedback during development.
Works with HTML, CSS, JS changes.

* Practical demo.

-> Client server interaction flow.

= Scenario: iPhone order on Apple.com.

HTML: Renders order form structure.
CSS: Styles buttons, inputs, product cards.
JS: Handles 'Place Order' click.
AJAX request: Sends data to server
Response: Updates UI without page reload.

Basic HTML structure explained

- Explanation of the fundamental HTML document outline:

<!DOCTYPE html> declaration

<html> tag with opening & closing tags

<head> section containing metadata such as <title>, <meta>, <link> and <script> tags.

<body> section which contains the visible content of the webpage.

- Importance of the title tag

Sets the page title displayed in the browser tab.
Plays a significant role in Search Engine Optimization (SEO).

- use of meta tags for describing page content, keywords and SEO metadata (meta description)

- Important insights

HTML structure is foundational.
SEO depends heavily on metadata.
CSS and JS are linked externally.

Headings hierarchy h1 (largest) → h6 (smallest)
[use semantic hierarchy for SEO and accessibility]

Shortcuts:- Alt + click (multiple cursors)
Alt + shift + ↓ (duplicate line)
lorem50 (dummy text emmet)

- paragraph & inline styling

lorem ipsum...

(Avoid inline css for production and use external stylesheets instead)

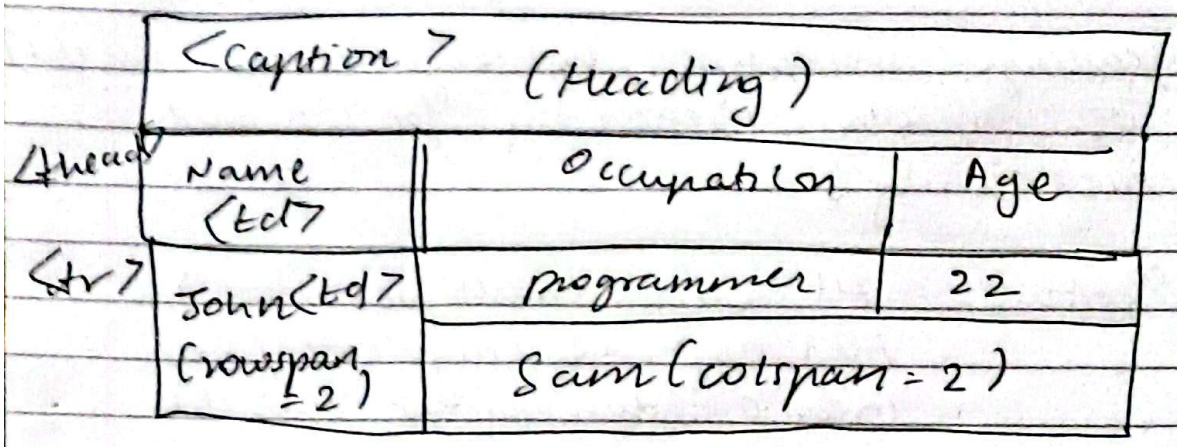
- Anchor links to open links
(target = "_blank" opens links in new tabs).

- HTML images

<img src = "cute-cat.png" alt = "kitten"
width = "100" height = "200">

src: image path
alt: accessibility text
width / height: perfect sizing

* HTML tables:



* Lists:

ul (unordered lists)

ol (ordered list)

dl (definition list) <dl>
<dt> </dt>
</dl>

* What is SEO ?

Search Engine Optimization ensures websites load quickly and provide excellent user experience.
Google prioritizes fast loading pages with good content when ranking search results.

* Core web vitals metrics

- Cumulative layout shift (CLS)
measures unexpected layout shifts during page loading.
Elements shifting positions create poor user experience.
Solution (always specify width and height attributes for images)

- Largest contentful paint (LCP)
Time taken for the largest page element to load. Target : under 2.5 seconds for good performance.
Critical for user - perceived loading speed.

- First input delay (FID).
Time browser takes to process first user interaction (button clicks).
Target : under 100 ms for responsive feed-

Lighthouse tool:

- Built in chrome Devtools (right click → Inspect → lighthouse tab).
- Generates performance report for mobile / desktop.
- Provides actionable optimization suggestions.
- Evaluates performance, accessibility, SEO, Best practices.

SEO Best practices:

Title tags: Reflect page content accurately
Meta description: Concise page summary
Avoid meta keywords: Deprecated and ineffective.
Mobile responsiveness testing via DevTools device preview.

HTML forms: collect user data and send it to a server (registration, contact forms, bookings).

<form> tag.

- action: URL where data is sent.
- method:
  a. GET: data visible in URL, for simple requests.
  b. POST: secure, for large / sensitive data.

- Input elements:

Common types: text, radio, checkbox, textarea, select.
key attributes: name (data key), id (unique identifier), placeholder, required, autofocus, pattern (regex validation)

- Labels and accessibility.

Use <label for='id'> to link tables with inputs for better usability.

- Uses CSS for layout (avoid <br> for spacing)
Always associate labels with inputs.

* Inline vs blocks elements.

Block elements: take full width and start on a new line
(, <p>, <h1> - <h6> , <li>)

Inline elements: take only the space their content needs and sit side by side.
(<a>, , , <img>.

- HTML ignores extra spaces/line breaks (use).

* SVG needs XML namespace declaration.

- ID attribute.

provides a unique identifier for an HTML element.
No two elements can share the same ID value.
declared with (#).

- Class attribute.

used for shared styling.
Multiple elements can use the same class.
declared with (.)

- <video> tag.

uses src for file path
controls for play/pause/ UI
autoplay start on load.
loop on repeat.
muted for silent.
poster for thumbnail.
width/ height for sizing.

- <audio> tag.

has src, controls, autoplay, loop & muted — adds preload.

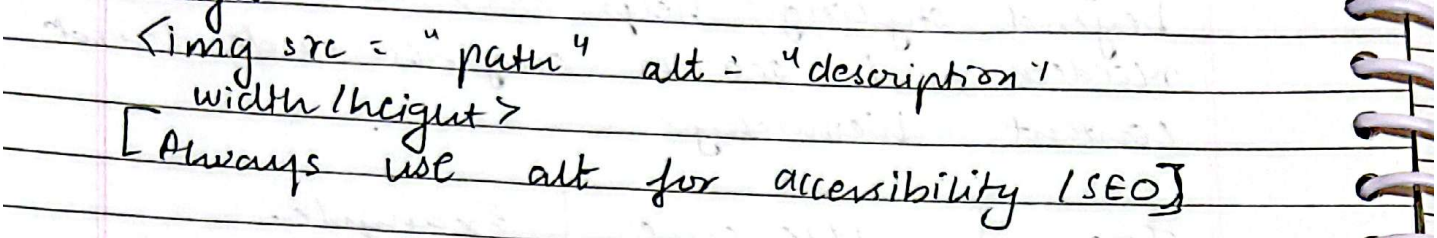
(Iframe is used for embedding sites.).

* Semantic tags.
They give meaning to HTML structure beyond styling; help SEO, screen readers and search engines understand content hierarchy.

Tag	Use case	Example.
<header>	Page/ top section (logo, nav)	Intro banner with title.
<nav>	navigation menu	Links to Home, about.
<main>	Primary content area.	Core article body
<article>	Independent content (blog post)	Self contained section.
<section>	Thematic grouping	Related paragraphs.
<aside>	Sidebar (ads, related info)	non-essential content.
<footer>	Bottom section (copyright, links)	Page credits.

Images, lists, tables.

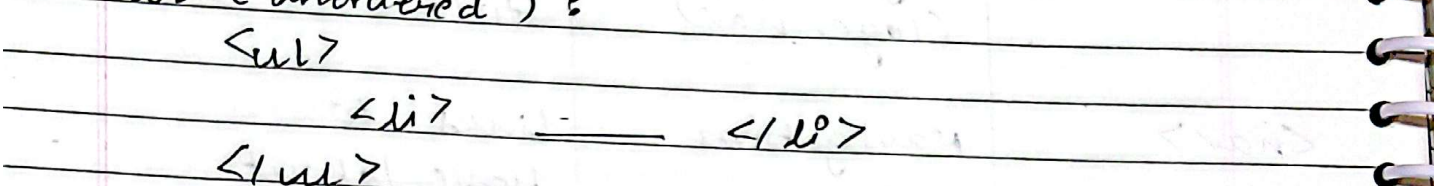
- Images:



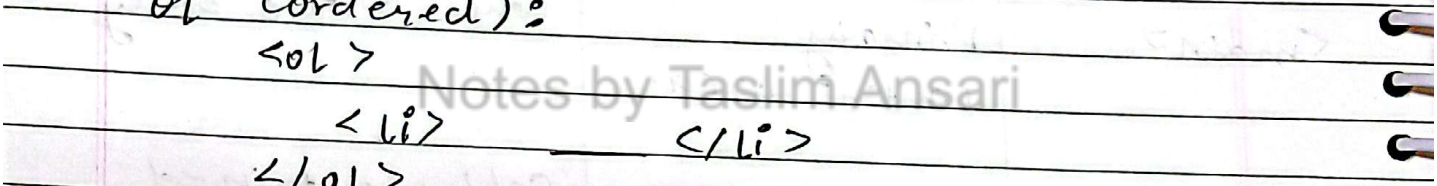
[Always use alt for accessibility / SEO]

- Lists:

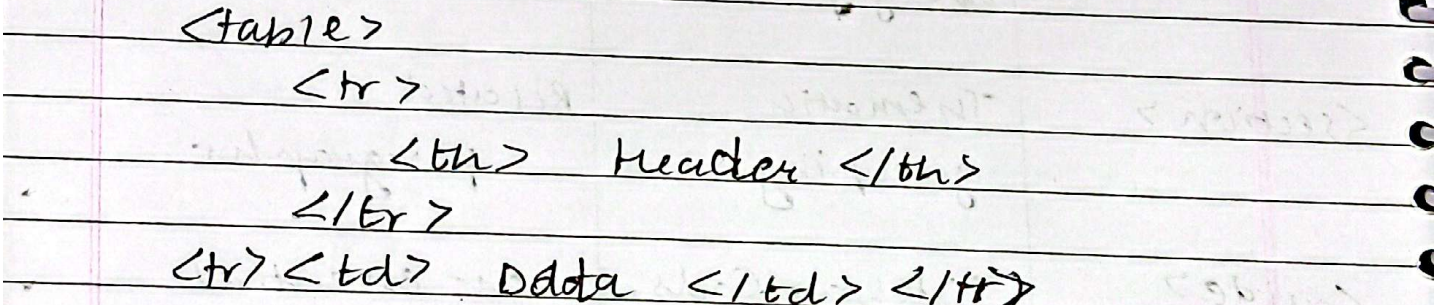
ul (unordered):



ol (ordered):



- Tables:



use <thead>, <tbody> for semantics.