**JavaScript & DOM - Class Notes**

**1. CSS Selectors**

CSS Selectors choose which HTML elements to style.

Example:

p {

color: blue;

}

Multiple Selectors: Separate with commas.

h1, h2, h3 { font-family: Arial; }

**CSS Combinators**:

* + div p → any <p> inside <div>
  + div > p → direct child
  + div + p → immediate next sibling
  + div ~ p → any next siblings

Pseudo-classes: Style elements in special states.  
Example:

a:hover { color: green; }

**2. JavaScript Variables**

Declaring Variables:

* + let — changeable
  + const — not changeable

Example:

let age = 25;

const name = "Sarah";

Why declare variables?

* + Reserve memory
  + Assign names to values

**3. JavaScript Types**

* Primitives: string, number, boolean, null, undefined, symbol, bigint
* Literals: hard-coded values like "hello", 42, true
* Weakly Typed: Variables can change type at any time.

**4. Arrays in JavaScript**

Store lists using arrays:

let fruits = ["apple", "banana", "cherry"];

console.log(fruits[0]); // "apple"

**5. The DOM (Document Object Model)**

* The DOM represents the HTML page as a tree of objects.
* JavaScript can read, change, add, or remove elements.

**6. Manipulating the DOM**

Find Elements:

document.getElementById("myId");

document.querySelector(".myClass");

Change Content:

element.innerText = "New Text";

element.style.color = "red";

Add Elements:

const newDiv = document.createElement("div");

newDiv.textContent = "I'm new!";

document.body.appendChild(newDiv);

Remove Elements:

element.remove();

Add/Remove Attributes:

element.setAttribute("href", "https://example.com");

element.removeAttribute("target");

**7. innerHTML vs. insertAdjacentHTML**

* innerHTML: Replaces all inner content.
* insertAdjacentHTML(position, html): Inserts HTML without deleting existing content.
  + Positions: "beforebegin", "afterbegin", "beforeend", "afterend"

Example:

div.insertAdjacentHTML("beforeend", "<p>New paragraph</p>");