Question 1: What is the DOM (Document Object Model) in JavaScript? How does JavaScript interact with the DOM?

Answer:
DOM stands for **Document Object Model**.
It is a **tree-like structure** created by the browser for every webpage.

In simple words:

DOM is the way JavaScript sees and controls the webpage.

Every HTML element becomes a **node** in this tree:

- <p> → paragraph node

- <h1> → heading node

- <img> → image node

How JavaScript interacts with the DOM:

JavaScript can:

- Change text

- Change styles (color, size)

- Change attributes (src, id, class)

- Add or remove elements

Example:

document.getElementById("title").innerText = "New Title";

This changes the text of an element with id="title".

Question 2: Explain getElementById(), getElementsByClassName(), and querySelector().

JavaScript provides different methods to **select HTML elements**.

1. getElementById()

Selects ONE element using its **id**.

let p = document.getElementById("para");

2. getElementsByClassName()

Selects ALL elements with the same **class name**.

let items = document.getElementsByClassName("box");

Returns a list (HTMLCollection).

3. querySelector()

Selects the **first matching element** using a **CSS selector**.

let firstDiv = document.querySelector(".container");

You can use:

- .className

- #idName

- tagName

Example:

document.querySelector("p");

document.querySelector("#title");

document.querySelector(".item");