

DOM Day 1: Mini Project & Logic Workout

Day 1 – DOM Basics & Dynamic Quote Box

- DOM = Document Object Model, a tree structure representing HTML elements.
- We can select elements using methods like `getElementById`, `querySelector`, etc.
- We can create new elements dynamically using `createElement` and append them.
- Events like button clicks are handled using `addEventListener`.
- `Math.random()` is used to generate random numbers for selecting quotes.

Mini Project Code: Dynamic Quote Box

```
const quotes = [
  "The best way to get started is to quit talking and begin doing.",
  "Don't let yesterday take up too much of today.",
  "It's not whether you get knocked down, it's whether you get up.",
  "If you are working on something exciting, it will keep you motivated.",
  "Success doesn't come to you, you go to it."
];
const btn = document.getElementById("btn");
const quoteBox = document.getElementById("quoteBox");
btn.addEventListener("click", () => {
  const randomIndex = Math.floor(Math.random() * quotes.length);
  const quoteText = quotes[randomIndex];
  const div = document.createElement("div");
  div.textContent = quoteText;
  div.style.padding = "15px";
  div.style.margin = "10px 0";
  div.style.backgroundColor = "#222";
  div.style.color = "#fff";
  div.style.fontSize = "18px";
  div.style.borderRadius = "10px";
  div.style.boxShadow = "2px 3px 5px gray";
  div.style.textAlign = "center";
  quoteBox.innerHTML = "";
  quoteBox.appendChild(div);
});
```

Logic Behind Random Quote Selection

- 1. `Math.random()` generates a random decimal between 0 (inclusive) and 1 (exclusive).
- 2. Multiply by `quotes.length` (5) to scale the number between 0 and 4.999...
- 3. `Math.floor()` rounds down to nearest integer → valid array index (0 to 4).
- 4. Use `quotes[randomIndex]` to get the quote at that index.
- 5. Every button click generates a new `Math.random()`, thus a potentially different quote.