

DOM Manipulation: Selecting, Creating, Deleting Elements

DOM Manipulation is the process of changing the Document Object Model (DOM) of a webpage by selecting, creating, deleting, and modifying elements.

Selecting Elements:

1. `getElementById` - Selects an element by its ID.

Example: `document.getElementById('myElement')`

2. `getElementsByClassName` - Selects elements by their class name. Returns a live `HTMLCollection`.

Example: `document.getElementsByClassName('myClass')`

3. `getElementsByTagName` - Selects elements by their tag name. Returns a live `HTMLCollection`.

Example: `document.getElementsByTagName('div')`

4. `querySelector` - Selects the first element that matches the CSS selector.

Example: `document.querySelector('.myClass')`

5. `querySelectorAll` - Selects all elements that match the CSS selector. Returns a static `NodeList`.

Example: `document.querySelectorAll('.myClass')`

Creating Elements:

1. `createElement` - Creates a new element.

Example: `let newDiv = document.createElement('div')`

2. `appendChild` - Adds a new child element to the selected element.

Example: `parentDiv.appendChild(newDiv)`

3. `innerHTML` - Can be used to create content within an element.

Example: `div.innerHTML = '<p>New Paragraph</p>'`

Deleting Elements:

1. `removeChild` - Removes a child element from the parent.

Example: `parentDiv.removeChild(childDiv)`

2. `remove` - Removes the element itself.

Example: `element.remove()`

Other Operations:

1. `setAttribute` - Adds or changes an attribute of an element.

Example: `element.setAttribute('class', 'newClass')`

2. `getAttribute` - Retrieves the value of an attribute.

Example: `element.getAttribute('id')`

3. `classList.add` - Adds a class to an element.

Example: `element.classList.add('active')`

4. `classList.remove` - Removes a class from an element.

Example: `element.classList.remove('active')`

5. `classList.toggle` - Toggles a class on or off.

Example: `element.classList.toggle('active')`

6. `style` - Changes the inline CSS of an element.

Example: `element.style.color = 'blue'`

Example:

```
<html>
```

```
<body>
```

```
<div id="myDiv">Hello World</div>
```

```
<button onclick="changeText()">Click Me</button>
```

```
<script>
```

```
function changeText() {
```

```
    let div = document.getElementById('myDiv');
```

```
    div.innerHTML = 'Text Changed';
```

```
}
```

```
</script>
```

```
</body>
```

```
</html>
```