DOM

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Document Object Model

- Represent page content as HTML
- document.body → Page body as JS object

BOM (Browser Object Model)

- Represent additional object provided by browser

DOM tree refers to HTML page where all the nodes are object. There can be 3 main types of nodes
- text nodes
- element
- Comment

In HTML, <html> is root to <head> & <body> are children.

Auto Correction → If an erroneous HTML page is encountered by browser, it tends to correct it by itself sometimes after body, it is moved inside body

document.head → <head>

document.documentElement → Page HTML tag

document.body → Page body tag

type of document.documentElement

Document.body can sometimes be null if js is written before body tag

Children of an element

Direct as well as deeply nested element of an element are called its children.

Child nodes

First child, last & child node

element.firstChild → first child
" .last " → last child
" .childNodes → all child nodes

Following are always true.

elem.childNodes[0] === elem.firstChild
elem.childNodes[elem.childNodes.length-1] === elem.lastChild

DOM collection are iterable using for --- of loop

Sibling & the parent

Sibling are nodes that are children of same parent

→ eg <head> & <body are siblings have same parent.

→ <body> is "next" or "right" sibling of <head> & <head> is "prev." or "left"

→ The next sibling is next Sibling property & previous one in prev. Sibling.

alert (doc. docElement. parentNode); // document

alert (" . " . " element)

// null

Element only Navigation

Sometimes we dont want text or comment nodes

eg doc. previousElementSibling → prev. sibling which is an element

doc. nextElementSibling
" . firstElementChild
" . lastElementChild

If we use doc. body. firstChild it can be text or comment

If we use doc. body. firstElementChild it will be <nav>, h1

Que Create a function to change bg. color of first element child

```
function change() {
    doc.body.firstElementChild.bg.style = "red"
}

change();
```

Table links

table.rows → collection of tr elements
table.caption → ref to <caption>
table.tHead → " " <thead>
" .tFoot → <tfoot>
.tBodies → collection of <tbody> elem
tbody.rows → " of <tr> inside

tr.cells → collection of td & th
tr.sectionRowIndex → Index of tr inside enclosing element
tr.rowIndex → Row no. starting from 0
td.cellIndex → no. of cell inside enclosing <tr>

Searching DOM

→ document.getElementById

let d = doc.getEl — TO('show')
d.style.color = "red"

→ doc.querySelectorAll

returns all elements inside an element matching given CSS selector

```
let a = doc.querySelectorAll(".container")
a[0].style.color = "blue";
a[1].innerHTML = "new";
```

→ doc.querySelector

returns first element for given CSS selector.

→ doc.getElementById("name")

→ doc.getElementsByClassName("")

→ doc.getElementsByTagName("li")

→ doc.getElementsByName

Searches elements by name attribute.

doc.querySelector("#container").getElementsByTagName("a")

Matches, closest & contains methods

There are 3 imp methods to access DOM

1.) elem.matches(css) → to check if elem matches given css selector

2.) elem.closest(css) → to look for nearest ancestor that matches given css selector. elem itself is also checked.

3.) elemA.contains(elemB) → ret. true if elemB is inside of elemA.

or

when elemA == elemB

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Que change color of first & last element child
→ doc getelement by TagName ("ul") [0]. firstElementChild.style.color
last ele

Console. dir function

console. log shows element DOM tree
console. dir shows element as an object with its properties

Node name → doc. body. first Element Child. nodename

Inner HTML

This property allows to get HTML inside element as string.

The outer HTML property contains full HTML innerHTML + element itself.

inner is valid only for element node. For other node types we can use node value or data

eg <span id = "first > OKS . </span

Console → first. inner HTML = "Clear Hey <b>"

Text Content → You can copy whole page as a text

console.log (document.body.textContent)

The hidden property

<div hidden> I am hidden </div>

Case

element.hidden = "false".

Attribute Methods

1.) elem.hasAttribute (name) → Method to check for existence of an attribute

2.) elem.getAttribute (name) → Method used to get value of an attribute

3.) elem.setAttribute (name, value) → Method used to set value of an attribute

4.) elem.removeAttribute (name) → Method to remove attribute from element

5) elem.attributes → Method to get collection of all attributes.

Example

2.) </>

JS ⇒ let a = first.getAttribute("class")
console.log(a)

1.) console.log(first.hasAttribute("class"))
("".hasAttribute("rgb"))