JS DOM Manipulation

DOM Manipulation Examples

When the Go button is clicked, reposition all the divs of class puzzle to random x/y locations.

When the user hovers over the maze boundary, turn all maze walls red.

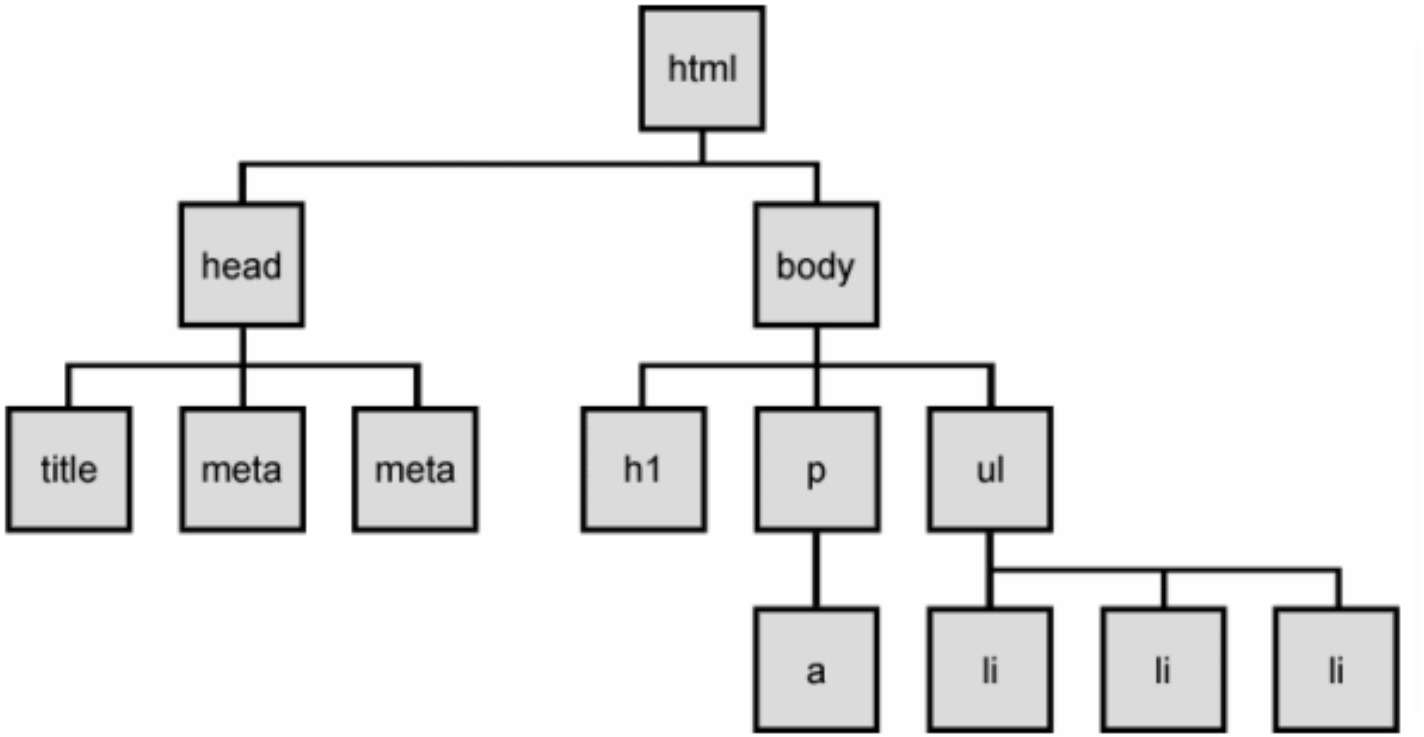
Change every other item in the ul list with id of TAs to have a gray background.

Find an element and modify it

```
document.getElementById("demo").innerHTML =
"Hello World!";
```

Property	Description
element.innerHTML = *new html content*	Change the inner HTML of an element
element.attribute = new value	Change the attribute value of an HTML element
element.style.*property = new style*	Change the style of an HTML element
Method	**Description**
element.setAttribute*(attribute, value)*	Change the attribute value of an HTML element

Changing HTML Element

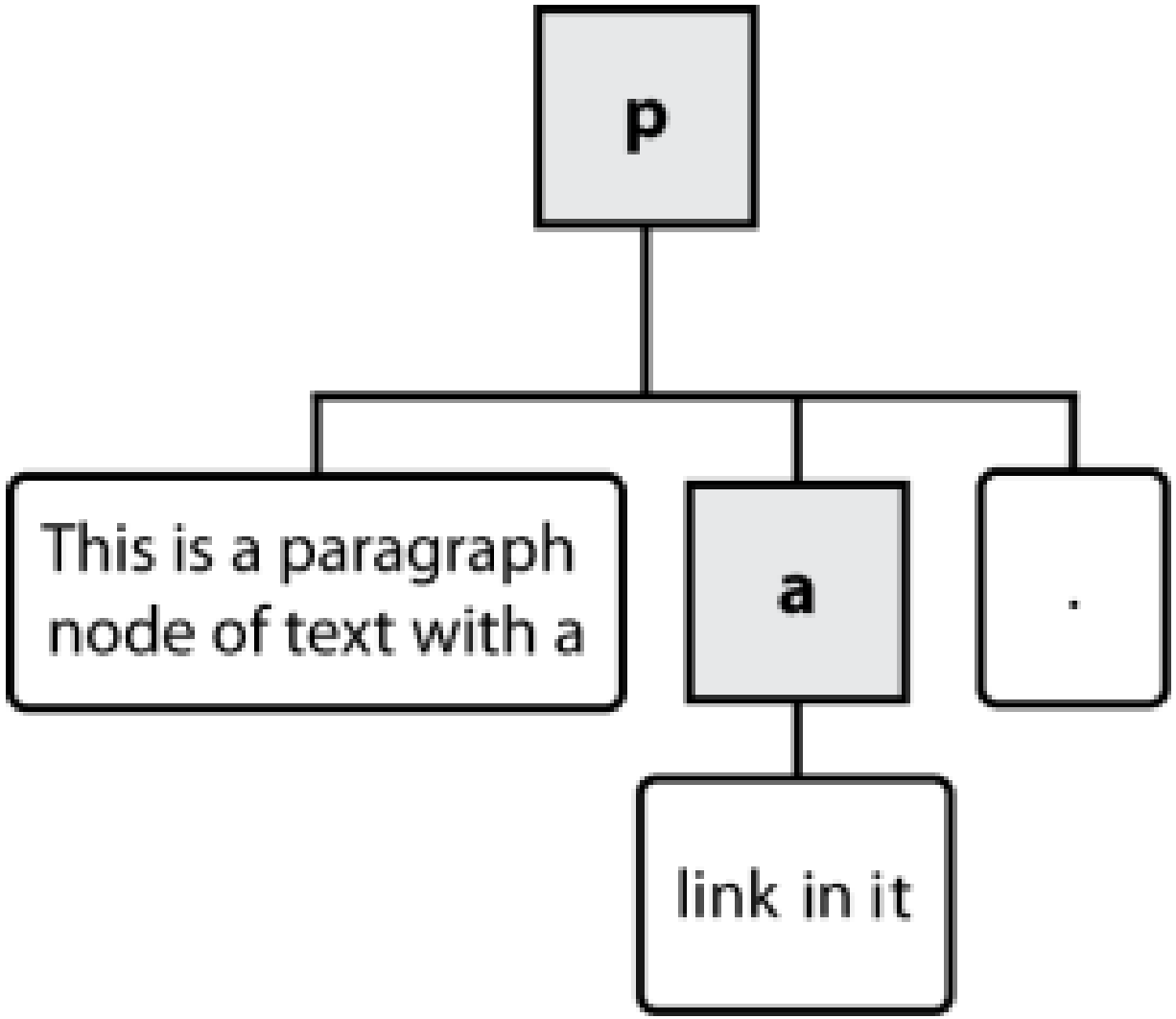


DOME Tree

The elements of a page are nested into a tree-like

structure of objects – DOM tree

- The DOM has properties and methods for traversing this tree



DOM Nodes

```
<p>This is a Paragrah
 with a <a href="">Lin
k</a> in it</p>
```

Type of DOM Nodes

Element nodes (HTML tag)

- can have children and/or attributes

Text nodes (text in a block element)

Attribute nodes (attribute/value pair)

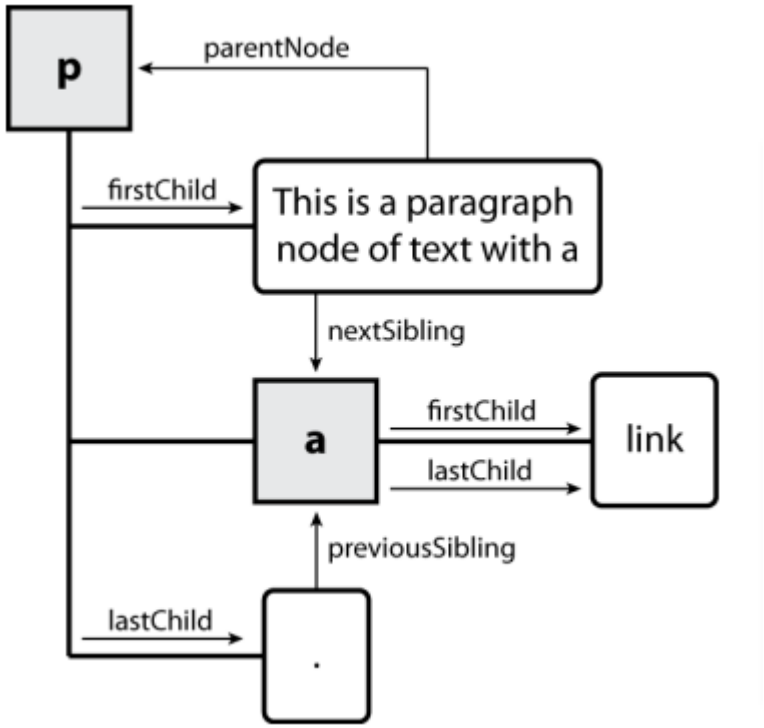
- Text / attributes are children in an element node
- Cannot have children or attributes
- Not usually shown when drawing the DOM tree

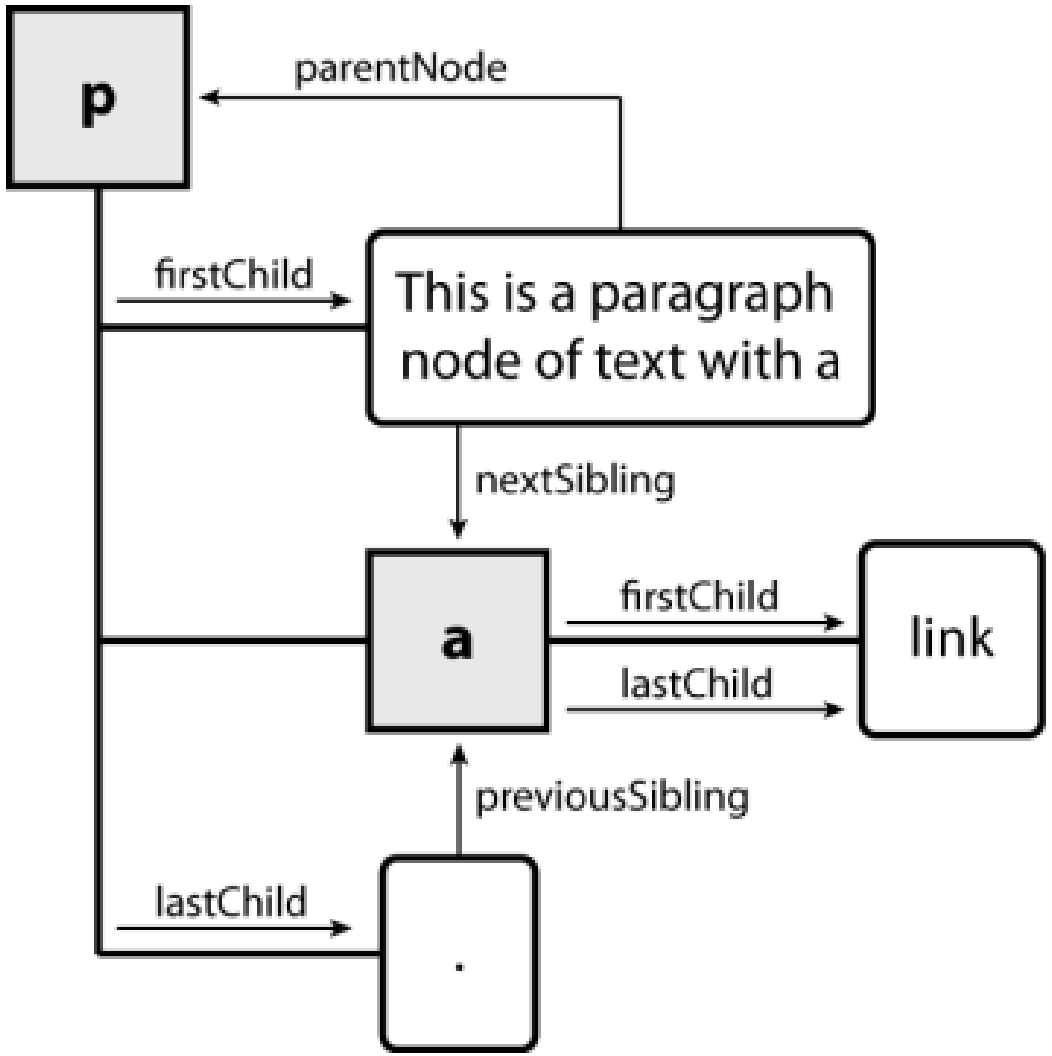
Name(s)	Description
firstChild, lastChild	start/end of this node's list of children
childNodes	array of all this node's children
nextSibling, previousSibling	neighboring nodes with the same parent
parentNode	the element that contains this node

Traversing the DOM Tree

DOM Tree Traversal Example

```HTML
<p id="foo">This is a paragraph of text with a
  <a href="/path/to/another/page.html">link</a>.</p>
```





Element vs. Text Nodes

How many children does the div above have?

- \n \t <p> ,

Getting all Elements of a Certain Type

```JS
var allParas = document.getElementsByTagName("p");
for (var i = 0; i < allParas.length; i++) {
  allParas[i].style.backgroundColor = "yellow";
}
```

```HTML
<body>
  <p>This is the first paragraph</p>
  <p>This is the second paragraph</p>
  <p>You get the idea...</p>
</body>
```

Name	Description
`document.createElement("tag")`	creates and returns a new empty DOM node representing an element of that type
`document.createTextNode("text")`	creates and returns a text node containing given text

```
// create a new <h2> node
var newHeading = document.createElement("h2");
newHeading.innerHTML = "This is a heading";
newHeading.style.color = "green";
```
JS

Create a New Tag

```JS
function slideClick() {
  var bullets = document.getElementsByTagName("li");
  for (var i = 0; i < bullets.length; i++) {
    if (bullets[i].innerHTML.indexOf("children") >= 0) {
      bullets[i].remove();
    }
  }
}
```

Removing a Node from the Page