Topic/Title: Introduction to the Document Object Model (DOM)

Keywords/Questions:

DOM model

document;

HTML tree generator

document.firstElementChild;

document.firstElementChild.
firstElementChild;

document.firstElementChild.
lastElementChild;

var x=.....

x.style.color="Red";

x.innerHTML="HI";

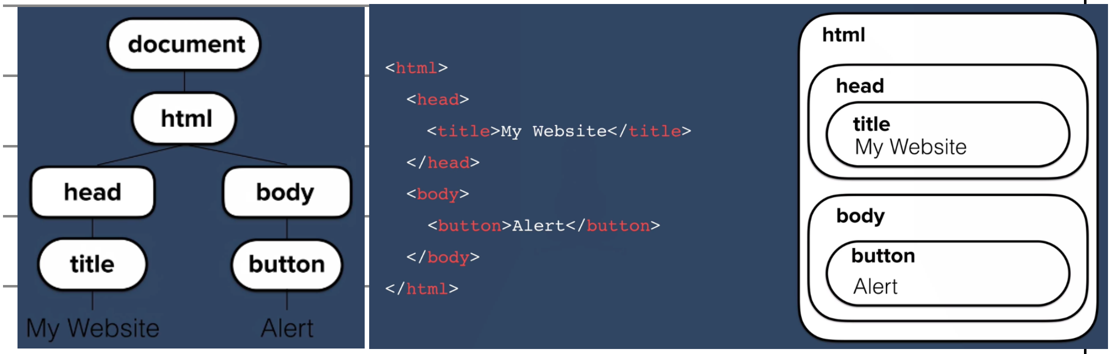
document.querySelector("h1").
innerHTML="Hi";

document.querySelector("input").
click();

DOM objects have:
-property
-method

Notes:

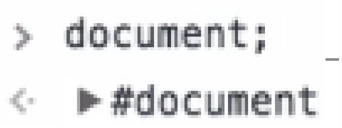
The DOM model:- the document object model. every element treated as an object.



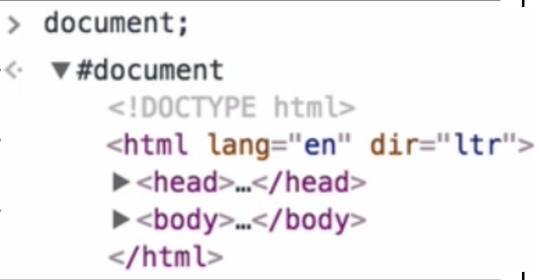
```
<html>
  <head>
    <title>My Website</title>
  </head>
  <body>
    <button>Alert</button>
  </body>
</html>
```

document;

-writing this in the console will print out the whole #document.



```
> document;
<· ▶ #document
```

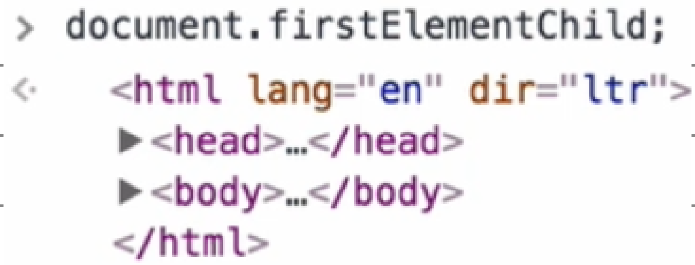


```
> document;
<· ▼#document
     <!DOCTYPE html>
     <html lang="en" dir="ltr">
     ▶<head>…</head>
     ▶<body>…</body>
     </html>
```

-If we expand the #document

we get the entire HTML file:

document.firstElementChild;



```
> document.firstElementChild;
<·   <html lang="en" dir="ltr">
     ▶<head>…</head>
     ▶<body>…</body>
     </html>
```

-It's giving me everything that's inside the HTML.

Summary: The DOM model :-treating every elements in our page as objects. document; :- prints the whole page code/document

document.firstElementChild; :-accesses the html tag and everthing inside it

document.firstElementChild.firstElementChild:-the head tag -document.firstElementChild.lastElementChild:-the body tag

var x=document.firstElementChild.lastElementChild.firstElementChild; :-means x=the h1 tag in the example in page 2

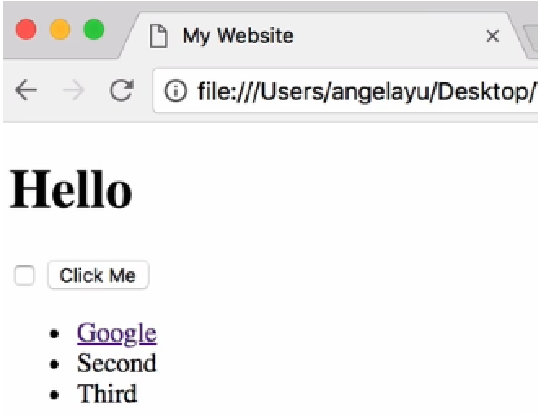
x.style.color="Red":-changes the color of the h1 tag to red -HTML tree generator:-shows us the DOM outline for our page.

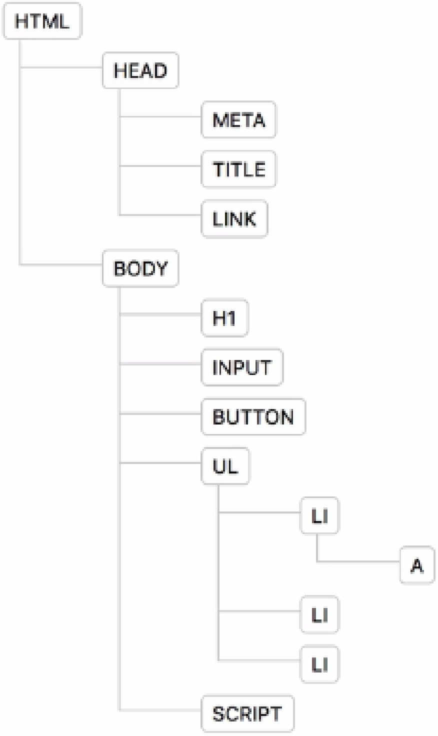
x.innerHTML="Hi"; & document.querySelector("h1").innerHTML="Hi"; :-both change the content of the h1 tag to Hi

document.querySelector("input").click(); :-clicks and ticks the empty box of our button

An object inside a DOM has a -property: like color and innerHTML -method(used only for objects): like click()

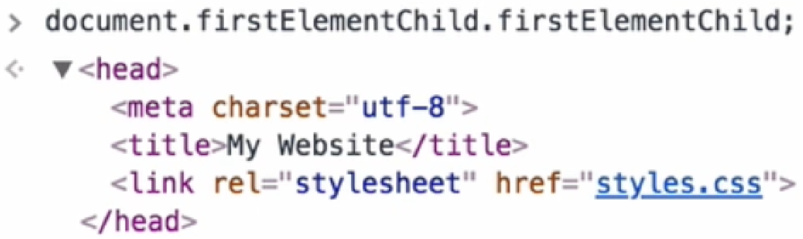
More Notes





document.firstElementChild.firstElementChild;

–



```
> document.firstElementChild.firstElementChild;
<· ▼<head>
      <meta charset="utf-8">
      <title>My Website</title>
      <link rel="stylesheet" href="styles.css">
    </head>
```

–It gives us the head. Because the head is the first child of the<html> tag and <html> is the first child of the document

document.firstElementChild.lastElementChild;

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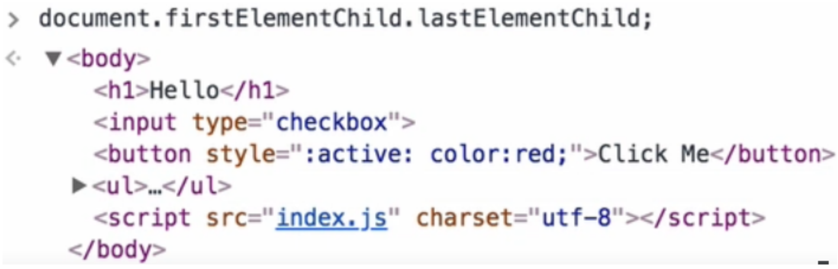
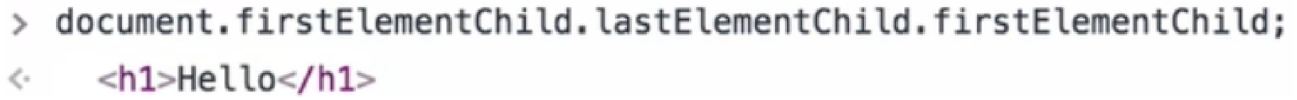


```
> document.firstElementChild.lastElementChild;
<· ▼<body>
      <h1>Hello</h1>
      <input type="checkbox">
      <button style=":active: color:red;">Click Me</button>
    ▶<ul>…</ul>
      <script src="index.js" charset="utf-8"></script>
    </body>
```

–It gives us the body. Because the body is the last child of the<html> tag and <html> is the first child of the document

document.firstElementChild.lastElementChild.firstElementChild;

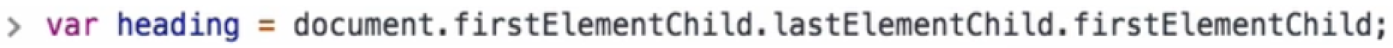
_



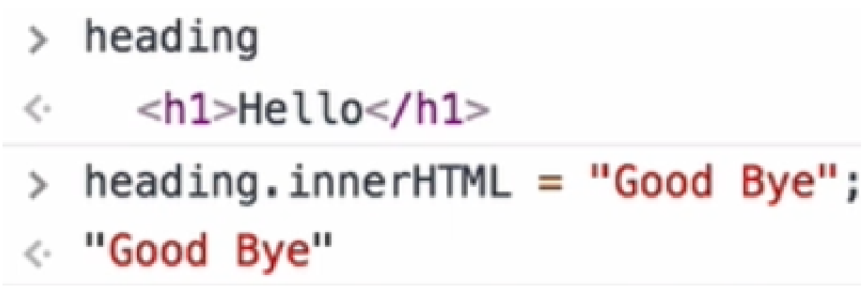
```
> document.firstElementChild.lastElementChild.firstElementChild;
<·   <h1>Hello</h1>
```

–It gives us the <h1> tag.

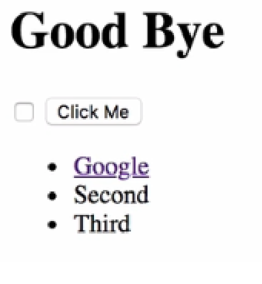
–



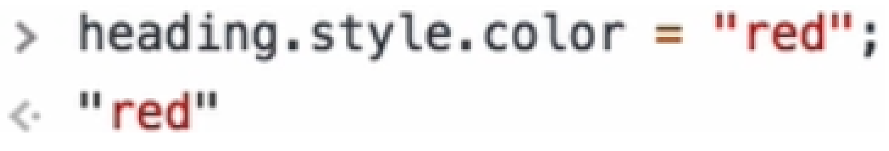
```
> var heading = document.firstElementChild.lastElementChild.firstElementChild;
```



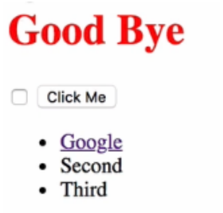
```
> heading
<·   <h1>Hello</h1>
> heading.innerHTML = "Good Bye";
<· "Good Bye"
```



–the heading.*innerHTML* ="Good Bye"; changes "Hello" to "Good Bye".

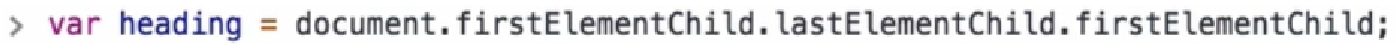


```
> heading.style.color = "red";
<· "red"
```

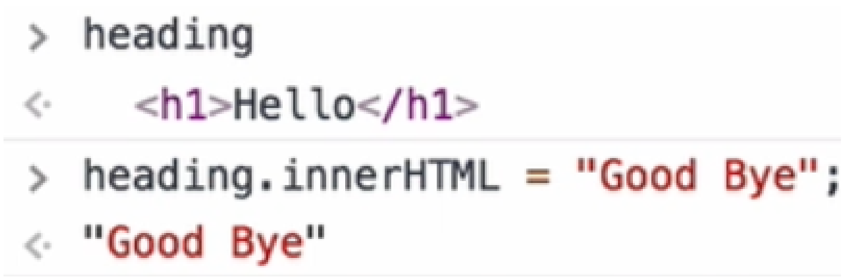


–heading.*style.color*="red" makes the h1 red in color.

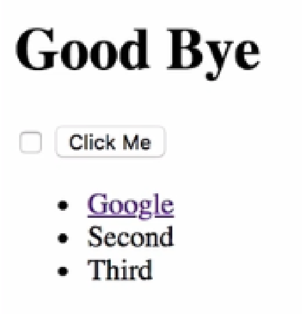
.innerHTML:– used to change the content of an element when used with the DOM model



```
> var heading = document.firstElementChild.lastElementChild.firstElementChild;
```



```
> heading
<·    <h1>Hello</h1>
> heading.innerHTML = "Good Bye";
<· "Good Bye"
```

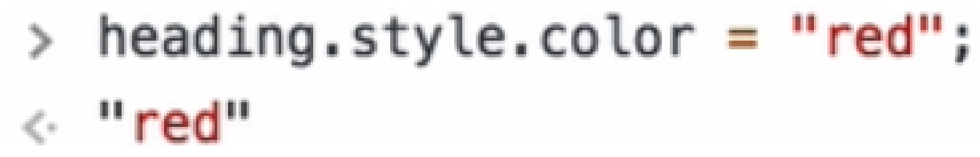


Good Bye

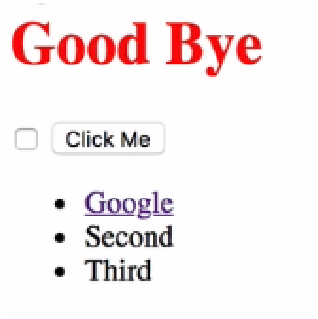
□ Click Me

- Google
- Second
- Third

.style.color :– used to change the color of an element when used with the DOM model.



```
> heading.style.color = "red";
<· "red"
```



Good Bye

□ Click Me

- Google
- Second
- Third

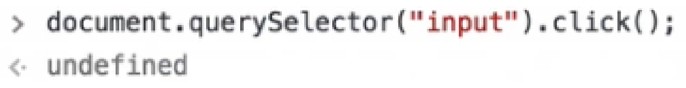
The DOM model :–allows us to change our website on the fly using the DOM.

–the above 2(.innerHTML and style.color) are examples of how we can do this.

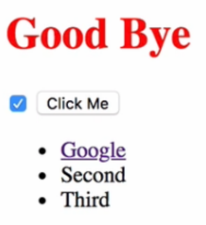
–we write our code inside our console.

document.querySelector("input").click();

–when we run this code our checkbox gets clicked.



```
> document.querySelector("input").click();
<· undefined
```



Good Bye

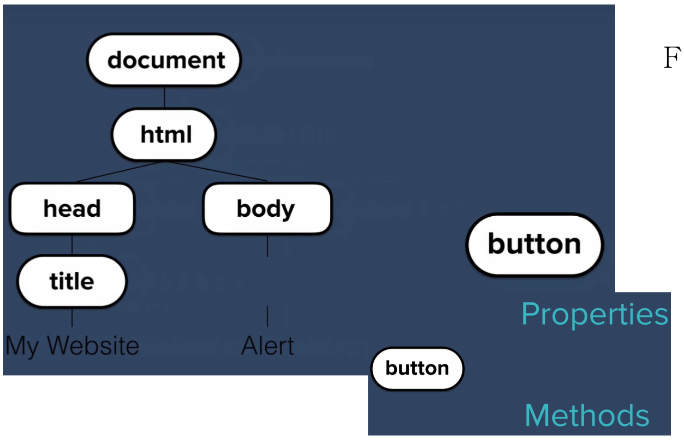
☑ Click Me

- Google
- Second
- Third

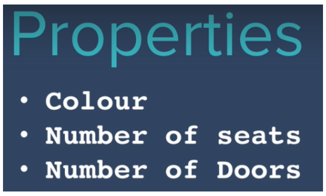
–we can see that our object inside the DOM can have both

–properties:– describe something about the object.

–methods:– are things the object can do.

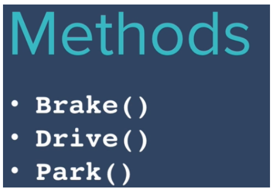


For example a car



Properties

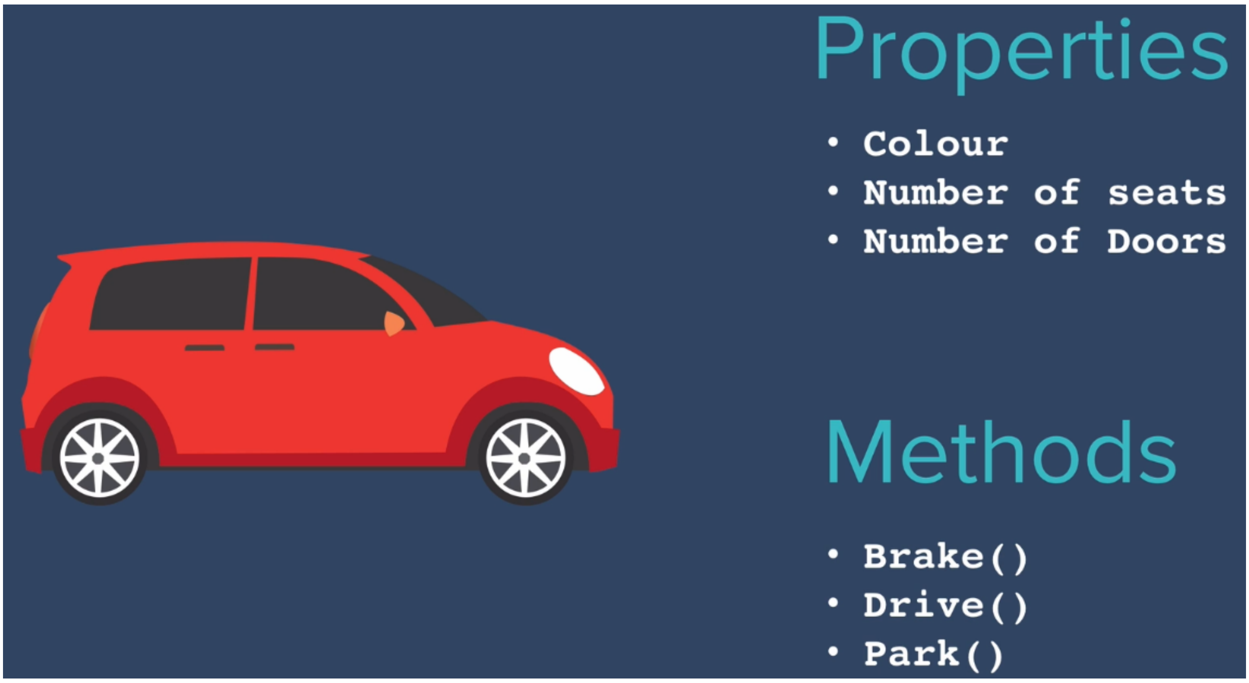
- Colour
- Number of seats
- Number of Doors



Methods

- Brake()
- Drive()
- Park()

Let us demonstrate properties and methods of an object inside the DOM using this car. Let the objects name be car:



Properties

- Colour
- Number of seats
- Number of Doors

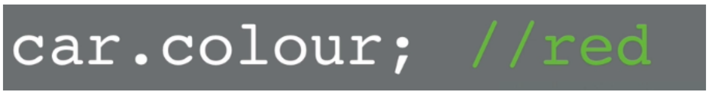
Methods

- Brake()
- Drive()
- Park()

Manipulating Properties

Get Property (getting a property)

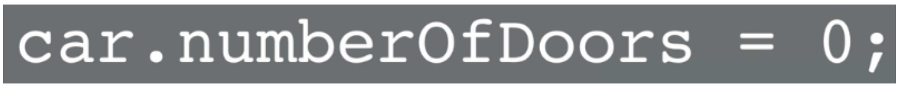
—we use it to get a property or in other words the value of a property.



```
car.colour;  //red
```

Set Property (setting a property)

—we assign a value using an equal sign.



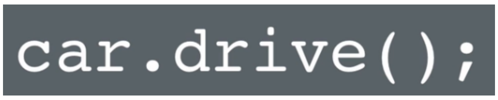
```
car.numberOfDoors = 0;
```

Manipulating Methods

Call Method (calling a method)

—it is calling a method on our object.

—For example

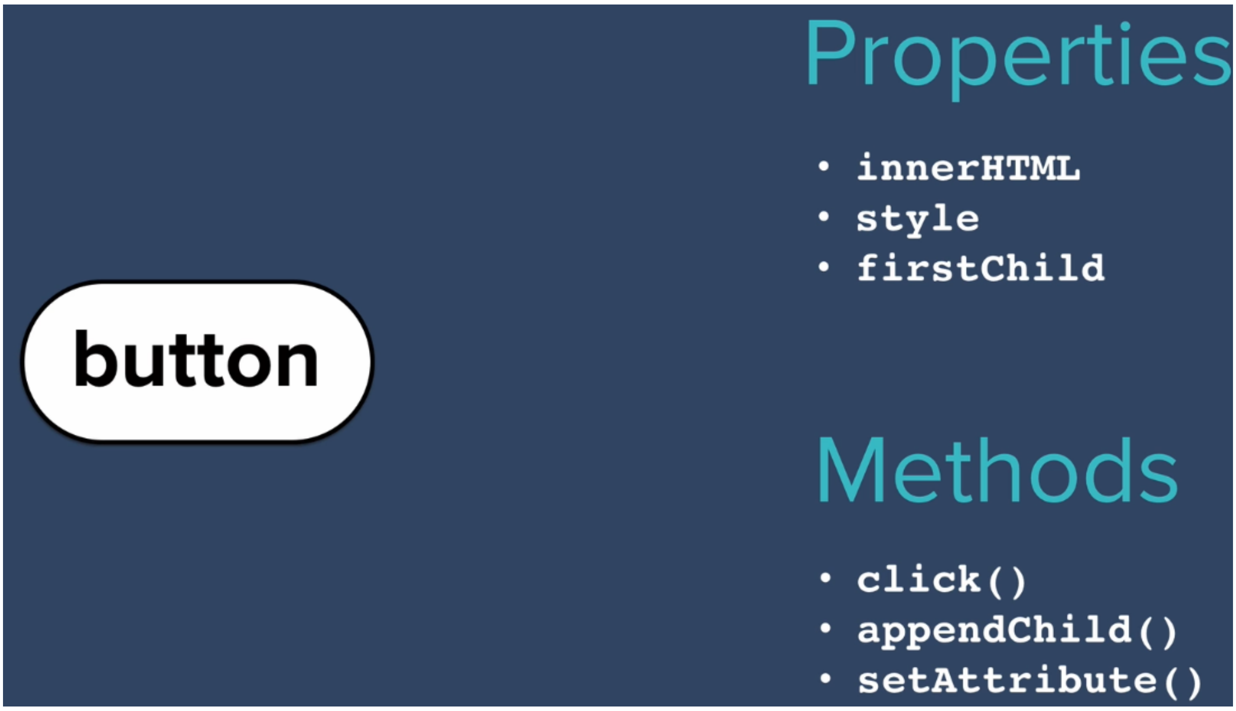


```
car.drive();
```

—will make the car drive.

-The difference between a method and an object is that a method is something that is only associated with an object. So, when we say method it should be about something our object can do. For example, *car.drive();* from above is a method. Function is more general and doesn't necessarily need to be about sth an object can do. So, a method is also a function.

-Let us go back to our button object.



button

Properties

- innerHTML
- style
- firstChild

Methods

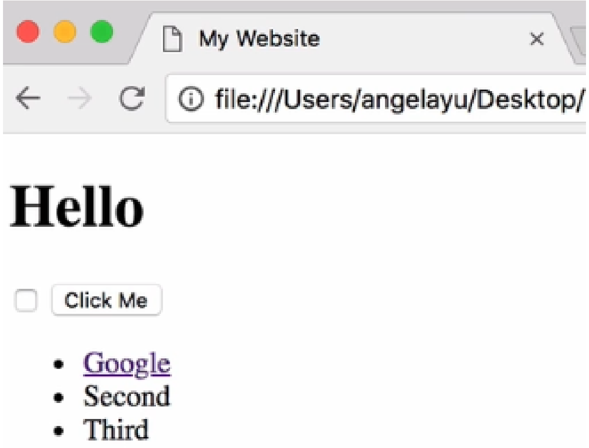
- click()
- appendChild()
- setAttribute()

-All methods should have a set of parentheses ( ) at the end. This is how you can tell the difference between a method and a property.

-.appendChild() :-used to add another child.

HTML Tree Generator: generates a DOM outline for our page. If it doesn't work

Just right click on HTML Tree generator and select manage extension n then allow access to URLs...



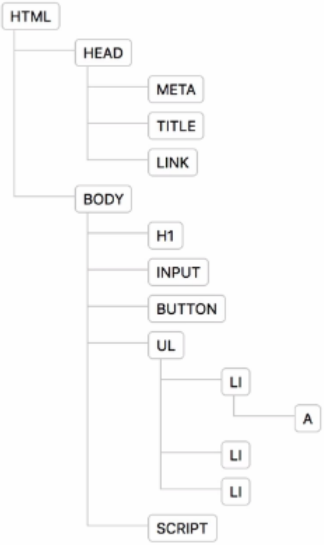
My Website

file:///Users/angelayu/Desktop/

Hello

□ Click Me

- Google
- Second
- Third


HTML
HEAD
META
TITLE
LINK
BODY
H1
INPUT
BUTTON
UL
LI
A
LI
LI
SCRIPT