**Document Object Model**

Typing “document” in console will display the document object model of a website.

**Important Document Attributes**

1. document.URL - This is the URL of the website.
2. document.body - This is everything in the HTML body element.
3. document.head - This is everything in the HTML head element
4. document.links - These are all the links on the page.

**Grabbing HTML objects**

* document.getElementById() - Returns the element with the id.
  + document.getElementById(‘myID’)
* document.getElementsByClassName() - Returns list of all elements belonging to a class.
  + document.getElementsByClassName(‘myClass’)
* document.getElementsByTagName() - Returns list of all elements with the tag.
  + document.getElementsByTagName(‘li’)
* document.querySelector() - Returns the first object matching the CSS style selector.
  + document.querySelector(‘.myClass’)
* document.querySelectorAll() - Returns all objects matching the CSS style selector.
  + document.querySelectorAll(‘h1’)
  + NOTE: When adding events to all selectors a for loop will be needed to add to each item.

**Modifying an HTML Object Style**

1. Select the HTML object to be modified and store in a variable. (Storing in variable is not necessary).
   1. var myHeader = document.querySelector(“h1”)
2. To modify the style of the selected HTML element select the style object.
   1. myHeader.style
3. Now you are able to choose what property to modify.
   1. myHeader.style.color = ‘red’;
   2. myHeader.style.border = ‘1px solid black’;

Full example:

Save following as .js file:

var myParagraph = document.querySelector("p");

myParagraph.style.color = 'blue';

Inside HTML file with the <p> element put in your JavaScript code:

<script src="myScript.js"></script>

**Important note**

The style property might not go by the same name in JavaScript as it does in CSS.

Example:

The CSS property name: (WILL NOT WORK)

myParagraph.style.font-size

The JavaScript syntax: (WILL WORK)

myParagraph.stylefontSize

Good Reference for JavaScript syntax:

<https://www.w3schools.com/cssref/default.asp>

**Modifying Text in HTML**

Begin with grabbing your HTML element and placing it in a variable:

var myVariable = document.querySelector(‘#myId’)

NOTE: you can grab HTML elements inside of HTML elements.

Example:

If you are grabbing an <a> inside of a element with an id=”special” you would:

var special = document.querySelector(“#special”)

Then to select the <a> tag inside:

var specialAnchor = special.querySelector(“a”)

* myVariable.textContent - This returns just the text.
  + myvariable.textContent = “new text”; << This will change the text of the HTML element to “new text”. Note: Tags will not work with textContent. (Ex: “<strong> new text</strong>” will not appear bold.)
* myVariable.innerHTML - This returns the actual HTML.
  + myVariable.innerHTML = “<strong> new text</strong>”; << This will change the text of the HTML to “**new text**”. Tags will work with innerHTML.
* myVariable.getAttribute() - This returns the original attribute.
  + myVariable.getAttribute(“href”) << This will return the current value of the attribute “href”.
* myVariable.setAttribute() - This allowed you to set an attribute.
  + myVariable.setAttribute(“href”, “https://www.google.com/”) << This function takes two arguments. The first argument is the attribute you want to modify and the second argument is the new value of the attribute.

**Using Events**

To listen for an event you use an event listener:

myVariable.addEventListener(event, function);

Example:

var head = document.querySelector(‘h1’)’

head.addEventListener(“click”, changeColor);

Example2:

head.addEventListener(“mouseover”, function(){

head.style.color = ‘red’;

})

**Adding Events to Multiple Items**

Example:

var cells = document.querySelectorAll('td');

function changeMarker(){

if (this.textContent === ''){

this.textContent = 'X';

}else if(this.textContent === 'X'){

this.textContent = 'O';

}else if(this.textContent === 'O'){

this.textContent = '';

}

}

for (var i = 0; i < cells.length; i++) {

cells[i].addEventListener("click", changeMarker)

}