

Lab 7: Exploring the DOM

(updated version)

Goal

- Explore the DOM API

Description

Work in pairs. This lab is a work-in-pairs exercise. Find a partner and work together. You may check our previous lab (lab 6) for a description of how (and why) to work in pairs.

Setup

Create a new folder and call it lab7. This is where all your lab files should be located.

1.1. Download the file lab7.html and open it in your favorite text editor.

1.2. Add a stylesheet.

- Create a stylesheet file and call it lab6.css.

- Reference this new stylesheet from your html file: use a `<link>` tag for that, adding it at the bottom of all other stylesheet references.

- Add a simple rule to your stylesheet to test that your web page is connected to the stylesheet, for example:

```
body { color: red; }
```

- Save stylesheet, refresh web page. Did the text change to red? If it did, it works as expected! Now you may delete that rule from your stylesheet.

1.3. Add a JavaScript file.

Create a file and call it lab7.js

- Reference it from your html file: add the following line to the bottom of your HTML page, right above the closing body tag:

```
<script src="lab7.js"></script>
</body>
</html>
```

- Add a simple JavaScript statement to your lab7.js file, for example: `alert();`

Save both files (.html and .js) and refresh your browser. Did it display an alert box? If it did, it works as expected!

Now delete that statement from your js file.

Your development environment is setup! The only thing that is missing is a cup of freshly brewed coffee!

Main Activity

2.1. In your lab7.js file, write a program that does the following:

1) Finds the heading "About the Course" and assigns it to a variable (use the `querySelector` method)

(This variable now contains an object of type `HTMLHeadingElement`)

2) Uses the created variable to change its text content to "Course Description" (use the `innerText` property)

3) Finds the anchor ("a") element that contains the word WordPress and assigns it to a variable (it's in the second paragraph). This is supposed to be a link, but it does not behave like one because it is missing the href attribute. We can fix that - see step 4.

4) Uses the setAttribute method to make WordPress a link.

As a reminder, the method is a function that can be called on an object (i.e., we cannot call this function "on its own" - we have to use the following notation:

```
someObject.someFunction()
```

where someObject is the variable holding an object, and function() is the function call to our function. For example, we could have this code:

```
var myHeading = document.querySelector("h1");
```

This gets us an object that is an HTMLHeadingElement

```
var someClass = myHeading.getAttribute("class");
```

Here we call the getAttribute method of the HTMLHeadingElement object, that returns the value of the attribute the name of which we provide as an argument (in this case, it's the attribute "class")

Now let's set our attribute:

```
yourVariable.setAttribute("href", "http://wordpress.org");
```

Don't click the link! As a matter of convenience, let's make sure that it opens in a new window or tab:

```
yourVariable.setAttribute("target", "_blank");
```

Now you may test your link.

2.2. We could also remove any attribute from any element. Try the following lines:

```
var links = document.querySelectorAll('link')
```

```
links[0].removeAttribute('href')
```

```
links[1].removeAttribute('href')
```

```
links[2].removeAttribute('href')
```

You've just removed the href attribute of all the stylesheet references. As a result, there is no more no styling on your page - how cool is that! However, we don't need our program to do this, so delete these 4 lines once you have tried them.

2.3. Now let's select several table cells and change their styling (it's the same program you are writing!)

1) Look at the schedule on the lab7.html page. Select next week's cells and do the following:

- add a class to the readings cells
- add another class to the session description cells
- add yet another class to the homework cell.

That is, you are transforming `<td>` into `<td class="foo">` where "foo" is a class of your choice, that you will define in your stylesheet.

Selecting cells in a table. You may not change the HTML - use CSS to access those cells. In order to select cells in a table that do not have a class, an ID, or any other distinguishing characteristic, use the nth-child pseudo-selector. If you haven't done this already, check homework 6 (Implementation guidelines step 2) for a description of how to use this selector.

Use your lab7.css to define 3 classes with several style rules (use any styles you want - color, background color, border, font-family, etc, etc. Make sure you have a few rules per class definition.

Use the following code to add a class to an element:

```
myElement.classList.add("class-name")
```

So, if you were adding a class called foo to an element that was assigned to a variable called myElement, your code would be:

```
myElement.classList.add("foo");
```

Submit your work

Save your lab5 folder as a zip file and submit the zip file to eLearning:

<https://bb9.uni.edu> > log in with CatID > our course > Course Content > Labs > Lab 7

NOTE: IF YOU WORKED WITH A PARTNER, ONLY ONE PERSON NEEDS TO SUBMIT THE LAB.
MAKE SURE YOUR FILE INCLUDES A COMMENT AT THE VERY TOP LISTING BOTH OF YOUR NAMES.