

## Wed Lab-5

### Topics:

- HTML, CSS Revision
- DOM
- Safe Objects
- Intro to JQuery

### DOM:

Objects in JS:

<https://www.digitalocean.com/community/tutorials/understanding-objects-in-javascript>

A good resource on DOM:

[https://developer.mozilla.org/en-US/docs/Web/API/Document\\_Object\\_Model/Introduction](https://developer.mozilla.org/en-US/docs/Web/API/Document_Object_Model/Introduction)

According to Document Object Model (DOM), every HTML-tag is an object. Nested tags are called “children” of the enclosing one. The text inside a tag is an object. All these objects are accessible using JavaScript. Everything between the opening and closing tag combined make the entire HTML element.

- DOM tree
- Window and document objects
- getElementById, getElementbyClassName, getElementbyTagName, createElement, appendChild
- Manipulating HTML and CSS - element.innerHTML, .style, .setAttribute, .getAttribute
- element.innerText vs element.innerHTML
- Events - click, hover, change, element.<event> vs element.addEventListener

More about Event Handlers:

<https://www.digitalocean.com/community/tutorials/understanding-events-in-javascript>

### Safe Objects:

What is an object?

[https://developer.mozilla.org/en-US/docs/Web/JavaScript/Guide/Working\\_with\\_Objects](https://developer.mozilla.org/en-US/docs/Web/JavaScript/Guide/Working_with_Objects)

## Exercises:

### Task1:

Create a function **myArray** that takes as input an array and returns a safe object containing the following functions:

- **Sum** : Returns the sum of the elements in the array
- **Product**: Returns the product of elements in the array
- **Sort**: Returns the array in sorted order.
- **Modify**: Takes an integer i as an argument and modifies the element at index i in the array
- **Display**: Displays the array

You are not allowed to use inbuilt functions for these. Ensure that the array is not directly accessible from outside the myArray function.

## JQuery:

To learn JQuery: <https://www.w3schools.com/JQuery/>

Syntax: <https://www.tutorialrepublic.com/jquery-tutorial/jquery-syntax.php>

JQuery is a library for Javascript which essentially simplifies the syntax of a lot of common javascript functionalities.

Download JQuery for local use: <http://jquery.com/download/>

Alternatively add:

```
<script src="https://ajax.googleapis.com/ajax/libs/jquery/3.3.1/jquery.min.js"></script>
```

Or

```
<script src="https://ajax.aspnetcdn.com/ajax/jquery/jquery-3.3.1.min.js"></script>
```

To your html pages (will only work as long as you are connected to the internet)

### Task2:

From Last Week's Exercises, but, do it using JQuery :)

Only a few adjustments to the code if you've already done it using vanilla javascript.

Use data.js and dynamic.html from: <https://web.iiit.ac.in/~projit.bandyopadhyay/>

Create a new HTML file named "dynamic.html" and perform the following three tasks:

- **Dropdown**: Create a dropdown(<select>) of names of the students.
- **Displaying marks**: On selecting any student name, display the corresponding attributes of the selected student in a table with the following format:  
| Name | marks1 | marks2 | marks3 | marks4 | marks5 | Percentage | Grade |

(More on next page)

### Criteria for grade:

| %age  | Grade |
|-------|-------|
| >90   | A     |
| 80-90 | B     |
| 70-80 | C     |
| 60-70 | D     |
| <60   | F     |

### Task3:

[https://www.w3schools.com/jquery/jquery\\_dom\\_set.asp](https://www.w3schools.com/jquery/jquery_dom_set.asp)

(Look at Get, Set, Effects, and the Examples for help)

Create an html file called 'randomizer.html'

Requirements:

- Create 4 separate `<p></p>` Tags with some text.(space them out if you can)
- On clicking on any of them, that paragraph should disappear.
- On double clicking on any of them, the paragraph should become bold
- Keep a button on the top, which resets the page.
- Create an image with fades in(or some other effect) inside some div.

### Submission Format:

In your repositories:

Labs/

└─ Lab-5/

│ └─ task1/

│ └─ safe\_object\_files\_to\_submit

│ └─ task2/

│ └─ all\_files\_to\_run\_dynamic

└─ task3/

│ └─ all\_files\_to\_run\_dynamic