Announcements

- Check class announcements daily
- You must implement programming projects by yourself
The functionality of the Reset button is already provided by HTML. You don't need to add any JavaScript or define a button.

You can change the text associated with the Reset button by using the value attribute.

**Example:** Reset.html
Accessing Data ASSOCIATED WITH HTML

- As we saw we can access data in forms by using `document.getElementById("elementId")`;
- `getElementById` returns a reference to an element that we can use to:
  - Retrieve the value of the element (e.g., text field in a form)
    ```javascript
    var login = document.getElementById("loginId").value;
    ```
  - Set the function to call when an element is clicked on (e.g., button)
    ```javascript
    document.getElementById("processButton").onclick = functionDoesProcessing;
    ```
  - Get/Set Attributes
    ```javascript
    var imageElement = document.getElementById("myImage");
    var imageName = imageElement.getAttribute("src");
    imageElement.setAttribute("src", "imageFile.jpg");
    ```
- **Example:** AssociateButtonWithFunction.html
- **Example:** GetValueInTextField.html
- **Example:** UpdateValueInTextField.html
- **Example:** GetSetAttribute.html
DOM (Document Object Model)

- **DOM →** representation of the elements of a web page (e.g., headings, lists, paragraphs, styles, etc.) used by a JavaScript program to manipulate web page elements
- **DOM →** Allows JavaScript programs to **dynamically** access and update the content, structure, and style of documents
  - From a JavaScript program you can control the image displayed in your page every hour
  - From a JavaScript program you can let users decide what background color to use
  - You could add/remove new items from a list
  - Others
DOM (Document Object Model)

- DOM represents elements of a web page as a tree structure consisting of nodes
- Each pair of tags (e.g., `<p>`, `</p>` ) is represented by a node
- Three types of nodes
  - text nodes
  - element nodes
  - attribute nodes
- Manipulation of these nodes allows a JavaScript program to access any information present in a web page
Example DOM for HTML File

```
<html>
  <head>
    <title>DOM Example</title>
  </head>
  <body>
    <p id="message">Traveling the road less traveled.</p>
  </body>
</html>
```
DOM (Document Object Model)

- To access any element of your web page you could traverse the tree
- Easier approach
  - `document.getElementById` method
    - Returns element with specified id
  - `getElementsByTagName` method
    - Can be used with document and every single element node
    - Returns a list of nodes
DHTML

DHTML (Dynamic HTML) – It is a combination of HTML, CSS, and JavaScript where scripts dynamically alter the style of a document.
Project #3

- Any questions?
- Remember to test your functions individually
One-Dimensional Arrays

- **Problem** → You need to keep track of the scores of students in a class
  - Declaring and handling 50 variables is not an easy task
  - Arrays come to the rescue
- **Array** → Collection of values that can be treated as a unit or individually
  
  ```javascript
  var a = new Array(4)
  ```

- You can visualize an array as a set of variables one after another
- **Indexing** → We access an element using `[ ]`
  - First element associated with index 0 (e.g., `a[0]`)
- An element of an array can be of any type and an array can hold different types of elements
- The length property represents the length of the array (e.g., `a.length`)
- We can print the contents of an array by using `alert`
- **Example**: `ArrayEx.html`
- **Example**: `FriendsArray.html`