Experiment No 3: Create the interactive webpages using Javascript.

Theory:

Variables
● var:

This was the traditional way to declare a variable in JavaScript. It is function-scoped and can be redeclared in the same scope. For instance:
var x = 10;.
● let:

Introduced in ES6 (ES2015), this allows block-level scoping of variables. It's preferable over var in modern JavaScript. Example:
let y = 20;.
● const:

Also introduced in ES6, this declares a block-scoped, read-only named constant. For instance:
const PI = 3.14;
Loops
● For:

A loop that repeats a specific number of times. For instance: for (let i = 0; i < 10; i++) {
console.log(i);
}
● While:

A loop that continues as long as a specified condition is true. Example: while (x < 10) {
console.log(x); x++;
}

do-while:
Similar to while, but the loop will always execute at least once. Example: do {
console.log(x); x++;
} while (x < 10);.
● For-of:

Loop over the values of an iterable object. Example: for (const value of array) {
console.log(value);
}
● For-in:

Loop over the keys of an object. Example: for (const key in object) {
console.log(key);
}
Event Handling
● addEventListener:

It attaches an event handler to a specified element without overwriting existing event handlers. For instance:
element.addEventListener('click', myFunction);
● EventHandler:

Function. It's the code that runs in response to an event. For instance, with the above addEventListener, when the element is clicked, myFunction will be executed.

Selection of Elements
● getElementById:

Selects an HTML element based on its "id" attribute. Example: document.getElementById('myId').
● getElementsByClassName:

Returns a NodeList of elements with the specified class name. Example:
document.getElementsByClassName('myClass').
● getElementsByTagName:

Selects elements based on the tag name. Example: document.getElementsByTagName('p').
● querySelector:

Uses CSS selectors to select the first matching element. Example: document.querySelector('.myClass').
● querySelectorAll:

Uses CSS selectors to select all matching elements. Example: document.querySelectorAll('p.myClass').