

Lab 07

Javascript Basics

Intended Learning Outcome:

1. Understand the uses of Javascript in client-side programming

Resource Required:

1. A text editor such as Notepad++, Brackets, Atom or Visual Studio Code
2. A browser such as Google Chrome or Mozilla Firefox

Lab 07**Javascript Basics**Lab Exercises

1. The exercise shows you JavaScript in action by loading an HTML document in your browser. The script writes a line of text in the browser using JavaScript.

lab07_1.html

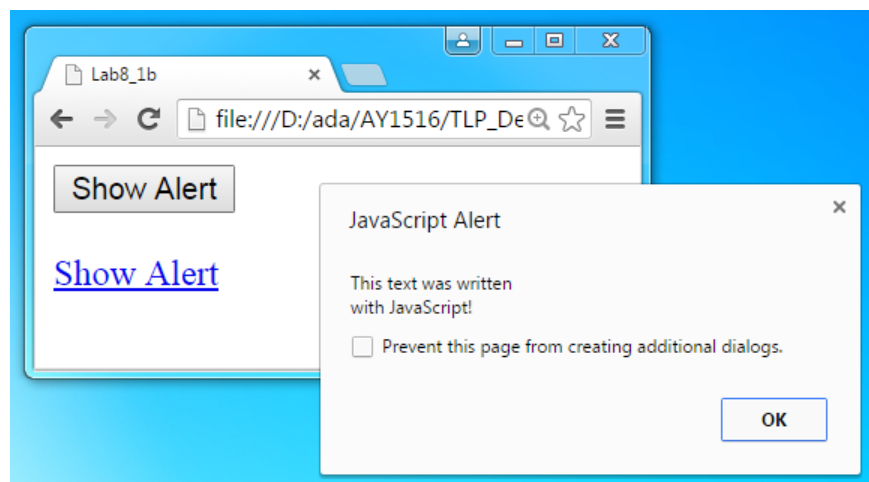
```
<!doctype html>
<html>
<head>
</head>

<body>
  <script type="text/javascript">
    document.write("This text was written with JavaScript!");
  </script>
</body>
</html>
```

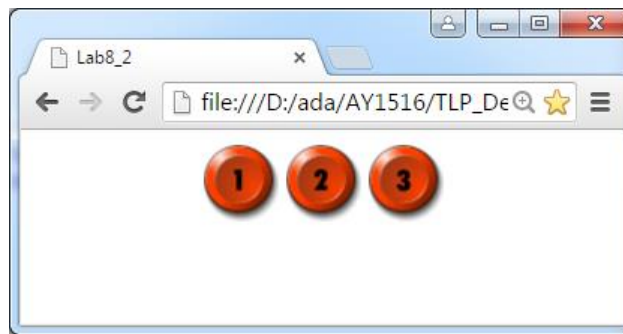
- a. [lab07_1a.html] Make the line of text displaying in <h1>, **bold** and *italic* on the web browser, and split the line of text as shown below:



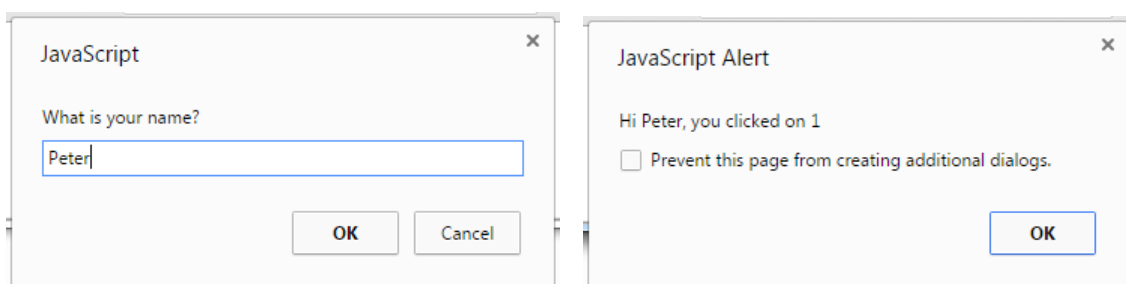
- b. [lab07_1b.html] Make a web page with a button and an anchor link by using the event handler and pseudo-URL to display the separated lines of text in an alert window as shown below:



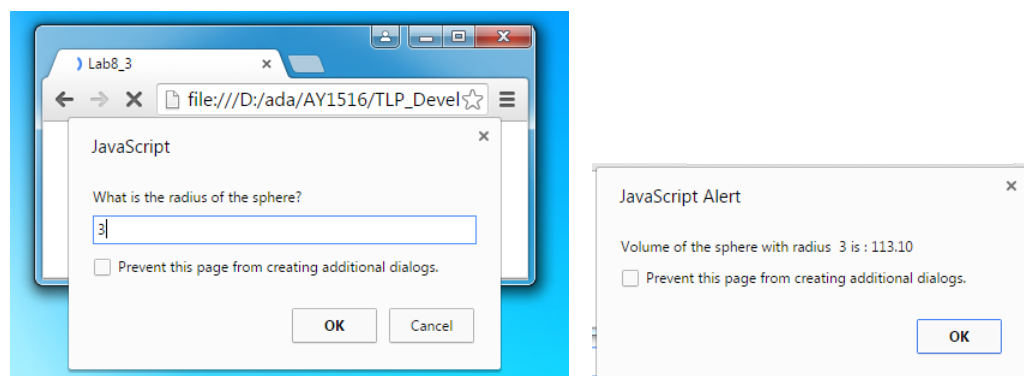
2. [lab02_2.html] Make a web page and insert these three images:



With each click of a button, it asks you for your name and shows something with an alert like "Hi Peter, you clicked on 1"



3. [lab07_3.html] Write a complete JavaScript script to prompt the user for the radius of a sphere and call function `sphereVolume(radius)` to calculate and display the volume of that sphere.



Use the following formula:

$$\text{volume} = (4.0 / 3.0) * \text{Math.PI} * \text{Math.pow}(\text{radius}, 3)$$

Display the result in an alert box with limit the result of volume to 2 decimal places. (You may use `volume.toFixed(2)` to accomplish this result).

[Optional Exercise]

4. (a) Try the following JavaScript code and save it into lab07_4a.html:

```
<!doctype>
<html>

<body>
  <script type="text/javascript">
    var x = window.prompt("Enter an integer for x");
    var y = window.prompt("Enter a floating point for y");
    var z = x + y;
    window.alert("The result of x + y is: " + z);
  </script>
</body>
</html>
```

Do you get the result as you expect? Modify the code to make the sum calculates correctly. (You may use the built-in function in the window object called `window.parseInt()` and `window.parseFloat()`).

You should also limit the number of decimal places in the result of z to 2.

- (b) [lab07_4b.html] Based on (a), rewrite the program using `if..else` and the function `isNaN()` to check if the two inputs are numbers, then add the first integer number to the second floating point number and prints the results in 2 decimal places.
- (c) [lab07_4c.html] Rewrite (b). This time write a Javascript function `getNum()` so that if not a number is entered, the function will ask the user again until a number is entered. Then call the `getNum()` twice to input two numbers and then sum them up and display the result.