



Javascript Specialist Designation Program

Lab Exercise #3

Great job on getting through the first two labs! Let's practice If, Else, and Else If statements along with comparison operators.

Lab Instructions

- 1) Run your Brackets development environment.
- 2) With Brackets running, choose File → New to open a new document. You should see the cursor flashing on the first line.
- 3) Immediately save your document using File → Save from the drop-down menus. Navigate to a folder where you'd like to save your lab exercise. Save your lab under the file name **third_javascript_lab.html**

Saving your lab at this point will allow you to take advantage of the syntax highlighting features available in brackets.

- 4) Key in the basic document structure. Be careful to key in the HTML5 code below exactly as it appears.

```
<!DOCTYPE html>
<html>
  <head>
    <title>Lab #3</title>
  </head>
  <body>
  </body>
</html>
```

We're using **Lab #3** as the content for the title

tag in this case.

- 5) In the body of the document add a heading 1 tag with the content "Let's play rock, paper, scissors!" Your code should look like this:

```
<h1>Let's play rock, paper,
scissors!</h1>
```

- 6) Now we're going to add one button that will tell the computer to choose rock, paper, or scissors. Using a button tag, placed after the previous <h1> tag, add a "Play!" message.

Afterwards, give the button an id of "playButton". Your code should look something like this:

```
<button id="playButton">Play!</button>
```

- 7) Let's add some Javascript so that the computer will create a random number from 0 – 1 and will choose rock, paper, or scissors based on that number.

For best practice, we will go ahead and create a separate Javascript file. Within the Brackets editor, click File → New.

Immediately save your document using File → Save from the drop-down menu. Save under the file name **main.js**.

- 8) Create a script tag right above the body tag and link it to the Javascript file.

```
<script src="main.js"></script>
```

The HTML file is now aware of the Javascript file that exists within the folder.

- 9) Open your **main.js** file and create the window.onload function.

Inside the window.onload function, you will create an alert function that will display the message, "Let's play! Think of a rock, a paper, or scissors".

After this function, go ahead and type out the second function which will search for an

element with the id “playButton”. The event listener will call a function named “randomNumber”.

Your code should look something like this:

```
window.onload = function() {  
  
    alert("Let's play! Think of a rock,  
    paper, or scissors!");  
  
    document.getElementById('playButton').add  
    EventListener('click', randomNumber);  
  
};
```

The reason we are putting an alert inside the onload function is so that the user can play a new game after refreshing the window.

10) The "randomNumber" function has not yet been created, so let's go ahead and create the response function that will alert you with the computer's choice.

Inside the randomNumber function you will first declare and initialize a variable that will generate a random number between 0 – 1. Remember from Lesson 2? Call the variable "computerAnswer".

```
var computerAnswer = Math.random();
```

Then, create an IF statement to check if the number is less than or equal to 0.33, if so alert rock. Else IF the number is greater than 0.33 and less than or equal to 0.66, alert paper. Else, alert scissors. Your final code should look something like this:

```
window.onload = function() {  
    alert("Let's play! Think of a rock, paper, or scissors!");  
    document.getElementById('playButton').addEventListener('click', randomNumber);  
};  
  
function randomNumber(e) {  
    var computerAnswer = Math.random();  
    if (computerAnswer <= 0.33) {  
        alert('Computer chose rock!')  
    } else if (computerAnswer > 0.33 && computerAnswer <= 0.66) {  
        alert('Computer chose paper!')  
    } else {  
        alert('Computer chose scissors!')  
    }  
};
```

10) Click File→Save to save the current version of your document. Navigate to the HTML document using your operating system and double click it. The document should open in your default browser.

Read the alert, click the Play! button and compete against the machine! Did you win?

Challenge Yourself

Enhance your skills by attempting the exercises below.

1) Play around with Switch statements. Use a switch statement instead of the if, else, and else if statements and try to get the computer to compete with you.

2) Put your site on the web. We've arranged a special deal with Blue Host. Visit <http://www.bluehost.com/track/learntoprogram/> and click “Get Stated Now.” You will be able to access web hosting plans as low as \$3.49 a month. Once Blue Host takes you through the process of creating your domain and web server upload your lab and post the URL for the others in the class to see.