Week 3 Lab 3

Making decisions

A) If statements

1. Single-alternative structure
   a. Create a new html file and name it 'if.html' using a code editor of your choice.

   b. In if.html, fill in HTML5 doctype declaration, html, head, title and body elements.

   c. Write a script element, <script> </script> between head element opening and closing tags.

   d. Between script element opening and closing tags, write the following Javascript code:

   ```
   var grade = prompt("Enter your grade:");

   if (grade > 40){

       document.write("You passed this course!");

   }
   ```

   e. Save if.html, open the file in your internet browser, try inserting a few different values for your 'grade' and observe the results.

2. Dual-alternative structure
   a. Edit your javascript code as follows:

   ```
   var grade = prompt("Enter your grade:");

   if (grade > 40){

           document.write("Your grade is " + grade + ". You passed this course!");

   } else {

           document.write("Your grade is " + grade + ". You failed this couse.");

   }
   ```

   b. Save if.html, open the file in your internet browser, try inserting a few different values for your 'grade' and observe the results.

3. Multiple-alternative structure
    a. Edit your javascript code as follows:

```
var grade = prompt("Enter your grade:");
if (grade > 89){
        document.write("Your grade is " + grade + ". You get an A for this course!");
} else if (grade > 79){
        document.write("Your grade is " + grade + ". You get a B for this course.");
} else if (grade > 69){
        document.write("Your grade is " + grade + ". You get a C for this course.");
} else if (grade > 59){
        document.write("Your grade is " + grade + ". You get a D for this course.");
} else {
        document.write("Your grade is " + grade + ". You get an F for this course.");
}
```

    b. Save if.html, open the file in your internet browser, try inserting a few different values for your 'grade' and observe the results.

4. Nested selection structure
    a. Edit your javascript code as follows:

```
var grade = prompt("Enter your grade:");
if (grade > 89){
        if (grade > 96){
          document.write("Your grade is " + grade + ". You get an A+ for this course");
        } else if (grade > 92) {
          document.write("Your grade is " + grade + ". You get an A for this course");
        } else {
```

```javascript
        document.write("Your grade is " + grade + ". You get an A- for this course");

        }

} else if (grade > 79){

        if (grade > 86){

            document.write("Your grade is " + grade + ". You get a B+ for this course");

        } else if (grade > 82){

            document.write("Your grade is " + grade + ". You get a B for this course");

        } else {

            document.write("Your grade is " + grade + ". You get a B- for this course");

        }

} else if (grade > 69){

        if (grade > 76){

            document.write("Your grade is " + grade + ". You get a C+ for this course");

        } else if (grade > 72){

            document.write("Your grade is " + grade + ". You get a C for this course");

        } else {

            document.write("Your grade is " + grade + ". You get a C- for this course");

        }

} else if (grade > 59){

        if (grade > 66){

            document.write("Your grade is " + grade + ". You get a D+ for this course");

        } else if (grade > 62){

            document.write("Your grade is " + grade + ". You get a D for this course");

        } else {

            document.write("Your grade is " + grade + ". You get a D- for this course");

        }

} else {

document.write("Your grade is " + grade + ". You get an F for this course");

}
```

b. Save if.html, open the file in your internet browser, try inserting a few different values for your 'grade' and observe the results.

B) Compound conditions

1. AND (&&)
   a. Create a new html file and name it 'compound.html' using a code editor of your choice.

   b. In compound.html, fill in HTML5 doctype declaration, html, head, title and body elements.

   c. Write a script element, <script> </script> between head element opening and closing tags.

   d. Between script element opening and closing tags, write the following Javascript code:

   ```
   var finalExam = prompt("Enter your final exam grade:");

   var contAsses = prompt("Enter your assignment grade:");

   if (finalExam >= 40 && contAsses >= 40){

           alert("Both grades are 40 or higher. You passed this course!");

   } else {

           alert("One or both of your grade(s) did not exceed 40. You did not pass this course.");

   }
   ```

   e. Save compound.html, open the file in your internet browser, try inserting a few different values for each 'grades' and observe the results.

2. OR (||)
   a. Edit your javascript code as follows:

   ```
   var finalExam = prompt("Enter your final exam grade:");

   var contAsses = prompt("Enter your assignment grade:");

   if (finalExam >= 40 || contAsses >= 40){
   ```

> *alert("One of your grades exceed 40. You passed this course.");*
>
> *} else {*
>
> > *alert("Both grades did not exceed 40. You failed this course.");*
>
> *}*

  b. Save compound.html, open the file in your internet browser, try inserting a few different values for each 'grades' and observe the results.

3. NOT (!)
   a. Edit your javascript code as follows:

> *var finalExam = prompt("Enter your final exam grade:");*
>
> *var contAsses = prompt("Enter your assignment grade");*
>
> *if (!(finalExam < 40 && contAsses < 40)){*
>
> > *alert("At least one of your grades exceed 40. You passed this course.");*
>
> *} else {*
>
> > *alert("Both grades did not exceed 40. You failed this course.");*
>
> *}*

   b. Save compound.html, open the file in your internet browser, try inserting a few different values for each 'grades' and observe the results.

C) Switch

   a. Create a new html file and name it 'switch.html' using a code editor of your choice.
   b. In switch.html, fill in HTML5 doctype declaration, html, head, title and body elements.
   c. Write a script element, <script> </script> between head element opening and closing tags.
   d. Between script element opening and closing tags, write the following Javascript code:

> *var grade = prompt("Enter your rating from 0 to 5");*
>
> *switch (parseInt(grade)){*

```
        case 0:

            alert("You rated 0.");

            break;

        case 1:

            alert("You rated 1.");

            break;

        case 2:

            alert("You rated 2.");

            break;

        case 3:

            alert("You rated 3.");

            break;

        case 4:

            alert("You rated 4.");

            break;

        case 5:

            alert("You rated 5.");

            break;

        default:

            alert("Invalid entry.");

            break;

    }
```

e. Save switch.html, open the file in your internet browser, try inserting a few different values and observe the results.