

WEEK 5 – JAVASCRIPT AND JQUERY INTRO

GA GENERAL ASSEMBLY

FEWD



Joe Bliss

Licensed to getElementById()

REVIEW EXERCISE - FORTUNE TELLER

Keep track of the following values:

- number of children
- your partner's name
- your geographic location
- your job title.

Output your “fortune” to the screen like so: “You will be a ____ in ____, and married to ____ with ____ kids.”

AGENDA

Review Temperature Converters

Comparisons

More Types of Functions

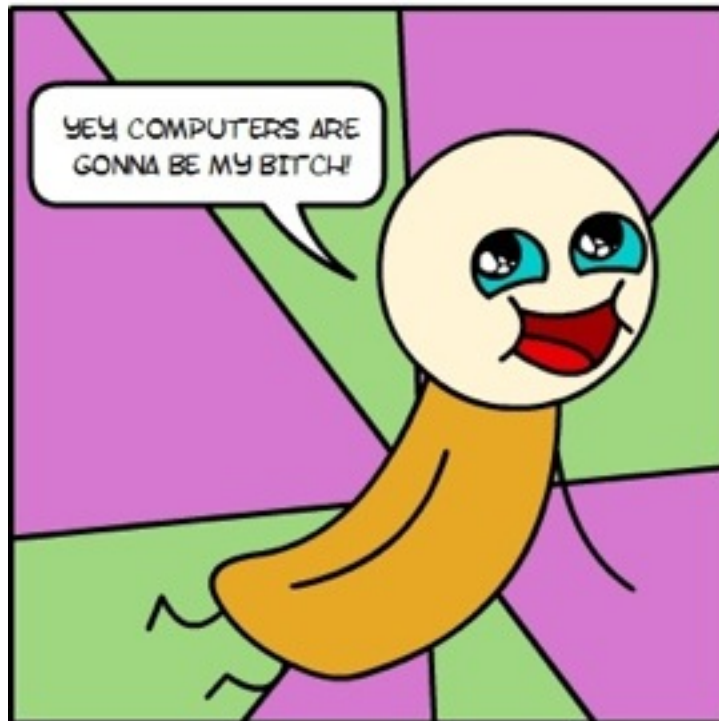
Quick word on Loops and Arrays

Intro to jQuery

Online Dating Profile

When I decided to take Computer Science as a second major

PRECONCEPTIONS



REALITY



TEMPERATURE CONVERTER

Would anyone like to share??



COMPARISONS

We often times have things that we want to compare.

Think back to our Thermostat pseudocode.

We will want to check if two values are equal.

We will also want to check if one is greater than, less than, or equal to another.

VAR X = 3;

Logical Operators			
Operator	Description	Comparing	Returns
==	equal to	x == 8	FALSE
!=	is not equal	x != 8	TRUE
>	greater than	x > 8	FALSE
<	less than	x < 8	TRUE
>=	greater than or equal to	x >= 8	FALSE
<=	less than or equal to	x <= 8	TRUE

IF A PICTURE PAINTS A THOUSAND WORDS, THEN ... EXECUTE SOME CODE

```
if (this condition is true) {
```

```
    //Execute this code
```

```
}
```

```
//Otherwise continue, skipping the code above
```


CODEALONG - CLICK COUNT

Change the color of the dot when the count hits a certain threshold.

IF / ELSE

```
if (condition is true) {  
    alert("The condition is true");  
}  
else {  
    alert("The condition is false");  
}
```

IF / ELSE IF / ELSE

```
if (condition is true) {  
    alert("The condition is true");  
}  
  
else if (some other condition is true) {  
    alert("The first condition was false, but this one is true");  
}  
  
else {  
    alert("Neither was true");  
}
```

EXERCISE - CLICK COUNT

Add some more functionality to the click counter by adding an else if and an else to the existing code.

FUNCTIONS

Functions are reusable collections of statements.

Declare a function:

```
function sayMyName() {  
    document.write("Joe Bliss");  
}
```

Call a function: //Will write "Joe Bliss" on the document twice

```
sayMyName();  
sayMyName();
```

FUNCTIONS – WITH ARGUMENTS

Functions can accept any number of arguments.

Declare a function:

```
function sayMyName(name) {  
    document.write("<p>Hello , "+name+"</p>");  
}
```

Call a function:

```
sayMyName("Joe Bliss");  
sayMyName("Chandler Moisen");
```

FUNCTIONS - ANONYMOUS

Some commands expect a function as an argument.
The anonymous function lets us use a function without naming and separately defining it.



function() {};

FUNCTIONS - ANONYMOUS

```
function() {  
    //do stuff  
}
```

Just like when we use numbers or strings without attaching them to a variable, when we use anonymous functions, they become more “ephemeral”. They only exist when that bit of code is being run.

They are good for JS events (like onclick, onchange) because they mean you don’t have to create a separate named function.

CODEALONG - TIP CALCULATOR

Write a function that accepts one argument, the meal total, and prints the tax (assume 8.25%), tip (assume 18%), and new calculated total.

To CodePen we will go ... to CodePen we will go ... hi ho the derry-o to CodePen we will go ...

EXERCISE - GRADE ASSIGNER

Create a little app that takes a students name, numerical grade, and creates a “Report Card” with a letter grade.

A QUICK WORD ON ARRAYS

Arrays are used when we want to keep track of multiple values in a single variable.

HIP! HIP! ARRAY!

Rather than create 5 variables with different values:

```
var fruit1 = "Pineapple";  
var fruit2 = "Lemon";  
var fruit3 = "Apple";  
var fruit4 = "Orange";  
var fruit5 = "Peach";
```

I can create one Array and give it 5 different values.

HIP! HIP! ARRAY!

```
var fruits = ["Pineapple", "Lemon", "Apple", "Orange",  
"Peach"];
```

Each fruit in the above Array can now be referenced by its “index”, that is, it’s numeric place in the Array, starting at 0.

fruits[0] is equal to “Pineapple”

fruits[3] is equal to “Orange”

HIP! HIP! ARRAY!

You can think of the structure / behavior of an Array as being like a pill sorter.



A QUICK WORD ON LOOPS

Loops are used when we want to do the same thing, repeatedly, either a fixed number of times, or until a certain condition is no longer true.

LOOPS!

The basic syntax:

```
while (true) {  
    //do stuff  
}
```


LOOPS - EXAMPLE

```
var fruit = ["Apples", "Oranges", "Bananas"];  
var count = 0;
```

```
while (count < fruit.length){  
    document.write("The current fruit is: "+fruit[count]+"<br>");  
    count++;  
}
```

LOOPS - EXAMPLE

```
var fruit = ["Apples", "Oranges", "Kiwi", "Bananas", "Strawberries"];
var count = 0;
var isBananas = false;

while (!isBananas){
    document.write("These are "+fruit[count]+"<br>");
    if(fruit[count] == "Bananas"){
        document.write("This sh*t is bananas");
        isBananas = true;
    }
    count++;
}
```

LOOPS - TYPES

Types of loops:

```
while (condition is true) {  
    //repeat stuff until condition becomes false (or infinitely if not)  
}
```

```
for (var i = 0; i < 9; i++) {  
    //repeat stuff 9 times  
}
```

JQUERY

JQUERY IS JAVASCRIPT

Or more accurately, jQuery is a “cross-platform JavaScript library designed to simplify the client-side scripting of HTML.”

<http://en.wikipedia.org/wiki/JQuery>

JQUERY - “WRITE LESS, DO MORE”

Different browsers handle DOM manipulation, transparency effects, and animation in different ways. jQuery abstracts these out so we only need to write the bare minimum.

It also provides simple functions for:

- HTML / CSS Manipulation
- Handling Events (Mouse, Keyboard, Form)
- Animation

jQuery allows you to write less code

JQUERY - WHY DO WE USE IT?

Here's a simple example:

<http://codepen.io/josephjbliss/pen/uqdCw>
- JS

<http://codepen.io/josephjbliss/pen/jLtfC>
- jQuery

THE \$("X") FUNCTION - GET ALL THE "X"

`$("x");`

- Query the document and return all the "x" elements.
- This could also be written as: `jquery("x");` We use the `$` as a convention to streamline.

`$("li a");`

- Will return all of the `<a>`'s that are within a ``

Any CSS selector can go here (as well as some jQuery-specific selectors that are built-in).

`$("#TENNISBALL")`

jQuery is playing fetch.



Go to the HTML and bring me back the object with the `id="tennisball"`.

`$(".STICK")`

Go to the HTML and bring me back ALL the objects with the class="stick".



THE ALMIGHTY `$()` - SELECTING

`$("div");` // selects all HTML div elements

`$("#myElement");` // selects one HTML element with ID "myElement"

`$(".myClass");` // selects HTML elements with class "myClass"

`$("ul li a.navigation");`

// selects anchors with class "navigation" that are nested in list items

CODEALONG - JQUERY VS JAVASCRIPT

Convert the given app in Javascript to jQuery.

INCLUDE JQUERY IN YOUR PROJECTS

Add a `<script>` tag before your `project.js` pointing to a copy of jQuery.

Option 1: Download and store locally:

- Go to <http://jquery.com/> and click download button

- Store file in `js` folder.

- Add script tag to HTML like any other script

Option 2: Include from Google API or other CDN:

```
<script src="https://ajax.googleapis.com/ajax/libs/jquery/1.11.2/jquery.min.js"></script>
```

Which is better?

<http://encosia.com/3-reasons-why-you-should-let-google-host-jquery-for-you/>

WHERE DO WE PUT OUR <SCRIPT>?

Let's reproduce our zebra stripe CodePen locally.

<http://codepen.io/josephjbliss/pen/jLtfC>

What happens if we put it in the <head>?

DOCUMENT ... READY!!

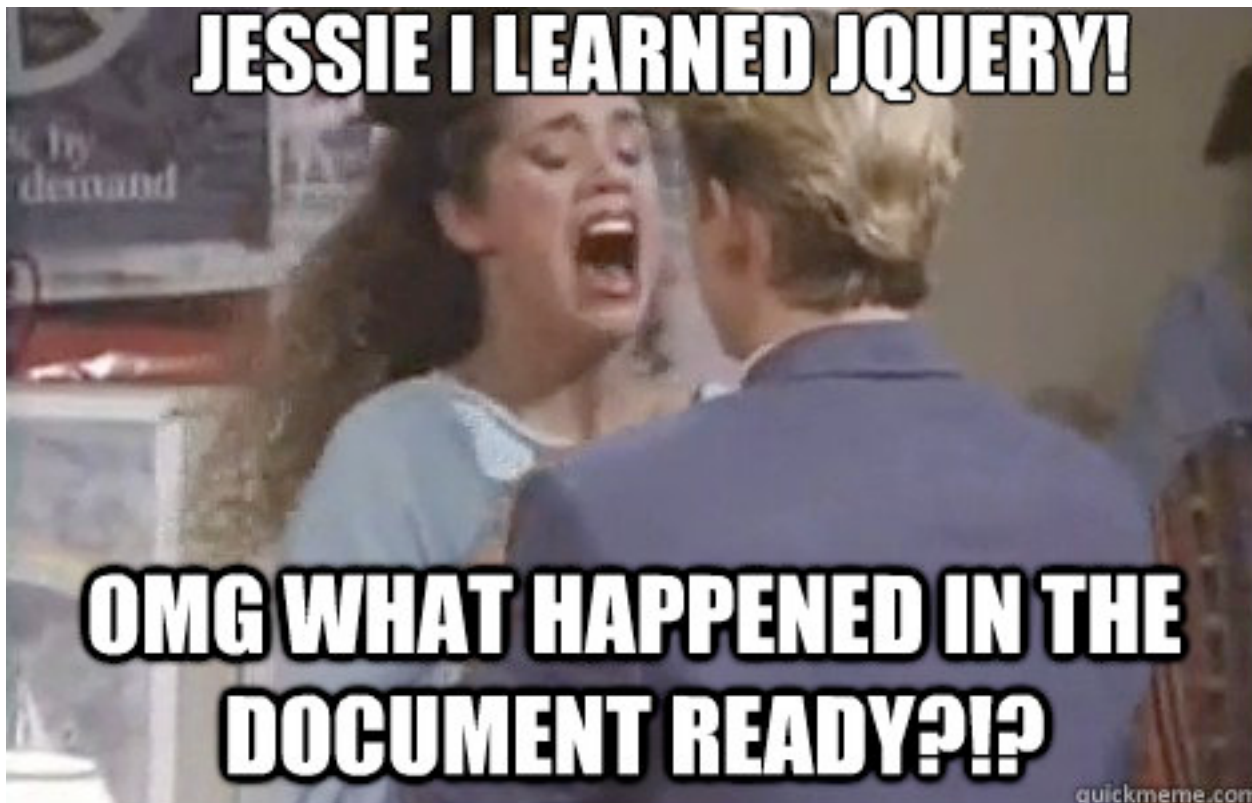
```
$(document).ready(function() {  
    //Wait until everything has been loaded in the HTML and CSS,  
    //Then execute this code.  
});
```

Using `$(document).ready()`, we are able to execute code only once the document is done rendering (i.e. the DOM is ready).

RUNNING CODE WHEN THE DOM IS READY



**IT'S ALRIGHT CAUSE I'M SAVED BY THE ...
\$(DOCUMENT).READY()!**



JQUERY - MANIPULATE HTML

`.html(htmlString)`

- inserts (and overwrites!) the html inside the selected elements with the htmlString

`.html()`

- With no argument, it's returns the html inside the matched element

`.append(string)`

- Insert content, specified by the argument, to the end of each element in the set of matched elements.

JQUERY - MANIPULATE CSS

`.css(propertyName, rule);`

- Changes the inline CSS values for all matched elements.

`.css({prop1: val1, prop2: val2});`

- Edit multiple properties at once.

`.css(propertyName);`

- Similar to `.html()`, when second arguments is not given, it returns the current value of the css property in question.

JQUERY - HIDE AND SHOW

`.hide()`

- Hides all matched elements by setting their inline style to `display: none;`

`.show()`

- Reveals all matched elements by setting their inline style to `display: block`. If the element was originally inline, then `display: inline` will be used.

See also:

`.hide("slow");`

`.show("fast");`

`.fadeIn(400);`

`.fadeOut(400);`

.CLICK()

```
.click(someFunction);  
function someFunction() {  
    //Execute Code in Here on Click  
}
```

- or with an anonymous function -

```
.click(function() {  
    //Execute Code in Here on Click  
});
```

EXERCISE - JQUERY EXERCISE

Follow the prompts in the exercise to try your hand at some jQuery.

HOMEWORK - CALCULATOR BOX

+10	+20	+30
Red	0	Blue
-10	-20	-30

HOMEWORK - CALCULATOR BOX

Clicking on a plus box adds to the total in the center. Clicking on a minus box subtracts. Clicking the red box changes the background color of the middle box red. Clicking the blue box changes the background color of the middle box blue. Clicking the total box will make the background color white (i.e. effectively blank).

If you're feeling ambitious, think about how you might improve-upon or make your calculator box code more efficient.

HOMEWORK - ONLINE DATING PROFILE

Create a dating profile for your favorite fictional character.

Requirements:

- Design is totally up to you, make it as simple or complex as you have time to
- Uses at least one embedded font (could be from Google, could be from Font Squirrel, etc)
- Includes main profile image, stats, bio, list of links to other sources (i.e. facebook / imdb / wikipedia / twitter)
- Should include several additional images