jQuery Basics

Interactive 1

You may find that your concepts go beyond just html and css and would need to use javascript. so, i wanted to introduce you to jQuery as something to explore. up to you if you want to use it. not a requirement. and i want you to use your best judgement about your programming skills to decide if you want to pursue it. don't let it detract from the quality of your site compared to if you were just to use HTML and CSS.

Javascript

```
The programming language of HTML and the Web.
Interaction with the user, animation, etc, typically
all done with JavaScript.
```

while you can do a limited number of animations, and interactivity in a single page just with CSS.

keyframe animations and transitions. triggered by hover. javascript lets you detect much more, and many of the pages we use online are using javascript to make them more interactive

jQuery

jQuery is a library, or set of helpful add-ons, to the JavaScript programming language.

jQuery is much better at giving you immediate, visual results than regular JavaScript.

Clicking, fading, blinking, changing color, etc... all easily done with jQuery!

this is partially due to it's prebuilt visual effects, but jquery also makes javascript syntax way easier to understand, enabling non-programmers to program

How it works

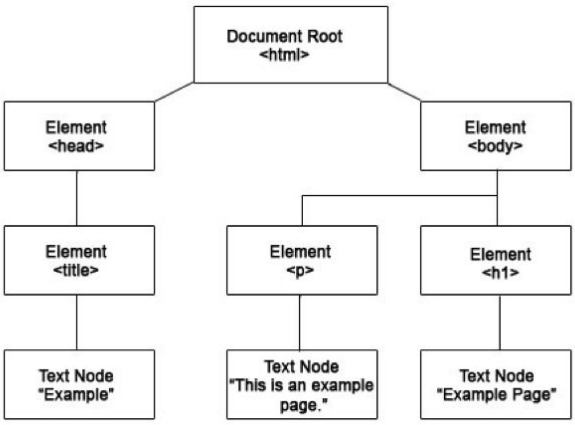
To get the most out of jQuery, we should review how an HTML page is put together.

An HTML document is structured according to the Document Object Model, or “DOM”.

It’s by interacting with the DOM that jQuery is able to access and modify HTML.

The DOM consists of every element on the page, laid out in a hierarchical way that reflects the way the HTML document is ordered.

The DOM



you can visualize the DOM as a branching structure. Javascript moves up and down these branches and selects specific elements.

you may change the color of that <p>

or add some content to that <h1>

or completely remove it from the DOM

Load jQuery

```
Two options:
1) Use Google's hosted version
   find this by googling "jQuery Google"
   + Pros: Less steps to set up
   - Cons: If you're offline, your local version won't work

2) Download jQuery and link to your own
   + Pros: Will work if you're offline
   - Cons: More steps to set up
```

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Loading a JS file

you link to a javascript file in a similar manner to a CSS file. i'd typically put it in it's own folder like a css file.

in order to use jQuery you need to load the jquery library, then load your own javascript code ***after*** you've loaded the jquery library in order to interact with it

```
Load jQuery
Option 1
It's best to load any JavaScript before the closing body tag.


<!DOCTYPE html>
<html>
<head>
<title></title>
</head>
<body>
     <script src="https://ajax.google...jquery.min.js"></script>
     <script type="text/javascript" src="assets/js/script.js"></script>
</body>
</html>
```

https://developers.google.com/speed/libraries/#jquery

you can see here right before the closing body tag i am loading jquery

it's important you load jQuery before you load your own script file.

the library is added so you can write javascript with jquery. then you have your own file where you define your own code.

```
Load jQuery
Option 1
It's best to load any JavaScript before the closing body tag.



<!DOCTYPE html>
<html>
<head>
<title></title>
</head>
<body>
     <script type="text/javascript" src="assets/js/jquery.min.js"></script>
     <script type="text/javascript" src="assets/js/script.js"></script>
</body>
</html>
```

here you can see i'm using my own local copy of jQuery.

```
Comments in JS
As you know, comments allow you and others keep
track of what your code does. The computer ignores it.

You make a single line comment with: //
And a multi-line comment with: /* */

// the below function does x

/*
the below code does x, y, z
*/
```

https://www.w3schools.com/js/js_comments.asp

these are helpful especially as your programs get more complicated

Document Ready
`$()` is special to jQuery. It says: "Hey, jQuery look for this element, and take action."
We can use the following to start using jQuery.

`$(document).ready();` syntax.

It works like this:

```
$('document').ready(function(){
  // jQuery magic;
});
```

`document.ready`, or another event, is needed in every JS document that uses jQuery. This activates the code in the file, and let's the webpage know when to execute code. All your jQuery code will go inside that `document.ready` function where the `// comment` is.

```
Selectors
The first thing you'll want to do is
select elements from the DOM to do things
with. Selecting in jQuery works just like
selecting in CSS.

$('selector').someAction;

For example
$('h1').hide();
$('h2 .small').fadeOut();
$('p.intro').show();
```

these work just like css. so, you can select a tag. a class within a tag, etc.

the $ tells jquery to begin looking for something, then inside the () you'll choose which element to select

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For example
$('h1').hide();
$('h2 .small').fadeOut();
$('p.intro').show();


Equivalent in CSS:
h1 { color: blue; }
h2 .small { font-size: 10px; }
p.intro { background: yellow; }
```

so it's just like targeting elements in css, but within the single quotes inside the parentheses

```
Selectors

Class Selector:
$('.yellow').show;

ID Selector:
$('#letterA').fadeIn;

Element Selector:
$('div').hide;
```

you can select classes and IDs just like in css – with a . or a #.

you can also select elements, like in css, just by calling the element name

```
Effects
Here are some commonly used effects:

Hide or show                    .hide();
                                .show();

Hide or show (with fade)        .fadeIn('fast');
                                .fadeOut(1000);

Delay before the effect         .delay(value);
```

once you've selected the element, you'll want to do something with it. jquery has prebuilt effects you can use

many of these effects at times can take a time value. these can be general adjectives defined within jquery – fast, slow, etc.

or ms values (1000 = 1000ms or 1 second)

Effects — cont'd.

Hide or show (more simple)	`.toggle();`
Hide or show (with fade + more simple)	`.fadetoggle();`

```
addClass / removeClass
One simple way to trigger visual changes using
JQuery is to add or remove classes from elements.

$('#letterA').addClass('rotate');
$('#letterB').removeClass('rotate');
```

this is how i would recommend triggering more nuanced or multi-step actions/animations

in this case you're selecting an element with the ID letterA and adding a class called 'rotate'

then selecting an element with the letterB and removing the class 'rotate'

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addClass / removeClass
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JQuery is to add or remove classes from elements.

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$('#letterB').removeClass('rotate');

When you add events to your JS you can easily
toggleClass to add or remove a class on command
```

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in this case you're selecting an element with the ID letterA and adding a class called 'rotate'

then selecting an element with the letterB and removing the class 'rotate'

Events
You can also tie changes to events the user performs such as clicks, scrolls, etc, etc.

```
$('thingToTouch').event(function() {
     $('thingToAffect').effect();
});
```

“Thing To Touch” is the HTML element you’ll click on, hover over, or otherwise interact with, and “thing to affect” is the HTML element that fades away, changes size, or undergoes some other transformation.

first you find a thing to touch. then trigger an event. then find the thing to affect. and trigger an effect.

events are really where jQuery and javascript will enable new interactions in your projects. tying these changes of the DOM to events is how you add interactivity to the page.

Events — click
Click event example:

```
$('button').click(function() {
     $('.announcement').toggleClass('show');
});
```

https://glitch.com/~toggle-click

Events — mouse
Mouse (enter and leave) example:

```
$('.red-circle').mouseenter(function() {
     $('.blue-square').fadeOut();
});

$('.red-circle').mouseleave(function() {
     $('.blue-square').fadeIn();
});
```

https://glitch.com/~mouse-on-off

Events — hover
Hover example:

```
$('.red-circle').hover(function() {
     $('.blue-square').fadeOut();
}, function() {
     $('.blue-square').fadeIn();
});
```

Hover is very similar to mouse (enter and leave),
just a little more elegant.

https://glitch.com/~mouse-hover

Adding and Removing Classes
add/remove class example:

```
$('#on').click(function(e) {
   $('#square').addClass('rounded');
});

$('#off').click(function(e) {
   $('#square').removeClass('rounded');
});
```

https://glitch.com/~add-and-remove-class

"this"
The this keyword refers to the jQuery object you're currently doing something with.

$(this), and the event will only affect the element you're currently doing something with (for example, clicking on or mousing over).

```
$('div').click(function() {
     $(this).fadeOut('slow');
});
```

https://glitch.com/~toggle-this

Go through the demo project here:

https://glitch.com/~modular-a-js

and uncomment/edit the Javascript to:

→ Rounding the corner of each letter module on ‘click’

→ Making the page colorful on ‘click’

→ Skew an element on ‘hover’