COMP335
Web Application Development

JQuery

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Tentative Schedule

- 10/7 Monday: Assignment#2
- 10/15 Tuesday: Assignment#3
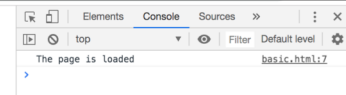
- 10/22 Tuesday: Exam

JQuery History

- JQuery is a JavaScript library.
- In August 2005, JQuery founder John Resig was looking into how to better combine CSS selectors with succinct JavaScript notation.

- jQuery is now the most popular JavaScript library currently in use
  - As of May 2019, jQuery is used by 73% of the 10 million most popular websites. Web analysis indicates that it is the most widely deployed JavaScript library by a large margin, having 3 to 4 times more usage than any other JavaScript library

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Including JQuery

- You must either:
  - link to a locally hosted version of the library
  - Use an approved third-party host, such as Google, Microsoft, or JQuery itself
    `https://code.jquery.com/`

JQuery test

Elements	Console	Sources	»

The page is loaded   basic.html:7

example: basic.html

JQuery Selectors

- The relationship between DOM objects and selectors is important in JavaScript programming.
- A shortcut notation for jQuery() : **$()**
- The four basic selectors are:
  - **$("*")** Universal selector matches all elements (and is slow).
  - **$("tag")** Element selector matches all elements with the given element name.
  - **$(".class")** Class selector matches all elements with the given CSS class.
  - **$("#id")** Id selector matches all elements with a given HTML id attribute.
- These selectors replace the use of **getElementById()** and **getElementsByTagName()**.

The Document Ready Event

```
$(document).ready(function(){

    // jQuery methods go here...

});
```

Anonymous (lambda, \, λ) function: you can write local functions that can be passed as arguments or returned as the value of function calls.

- This is to prevent any JQuery code from running before the document is finished loading (is ready). For example,
  - Trying to hide an element that is not created yet
  - Trying to get the size of an image that is not loaded yet

```
window.addEventListener('load',foo); // JavaScript
```
example: basic.html
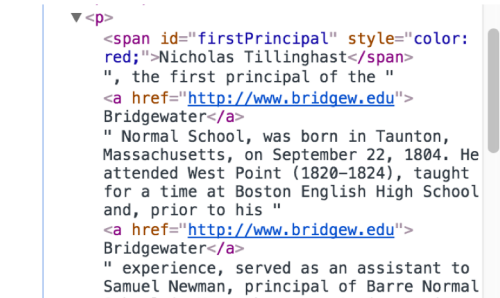
JQuery Attributes and Properties

- In JQuery we can both <u>set</u> and <u>get</u> an attribute value by using the **attr()** method on any element from a selector.

```
$("a").attr("href");  // get
//set: Replace all <a> links href to BSU home page
$("a").attr("href","http://www.bridgew.edu");
```

example: BSU.html

Changing CSS

- JQuery provides the extremely intuitive **css()** methods.
- To get a css value, use **css()** method with 1 parameter:
```
// get the color
$("#colourBox").css("background-color");
```

- To set a CSS variable use **css()** with two parameters: the first being the CSS attribute, and the second the value.

```
// set color to red
$("#colourBox").css("background-color", "#FF0000");
```

```
▼<p>
    <span id="firstPrincipal" style="color:
    red;">Nicholas Tillinghast</span>
    ", the first principal of the "
    <a href="http://www.bridgew.edu">
    Bridgewater</a>
    " Normal School, was born in Taunton,
    Massachusetts, on September 22, 1804. He
    attended West Point (1820–1824), taught
    for a time at Boston English High School
    and, prior to his "
    <a href="http://www.bridgew.edu">
    Bridgewater</a>
    " experience, served as an assistant to
    Samuel Newman, principal of Barre Normal
```

Chrom → inspect : You can check modified parts from DOM

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example: node.html

Modifying the DOM

- The **append()** method takes as a parameter an HTML string, a DOM object, or a JQuery object. That object is then added as the last child to the element(s) being selected.
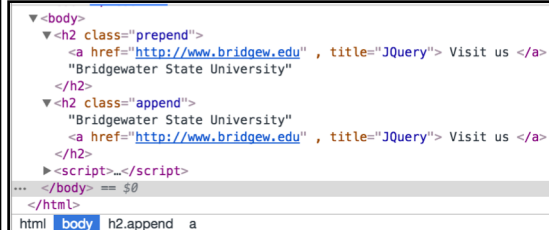
Before
```
<h2 id="prepend">Bridgewater State University</h2>
<h2 id="append">Bridgewater State University</h2>

var jQueryLink = $("<a href='http://www.bridgew.edu',
title='JQuery' > Visit us </a>");
$("#append").append(jQueryLink);
```

```
<h2 id="append">Bridgewater State University
   <a href="http://www.bridgew.edu", title="jQuery">
      Visit us
   </a>
</h2>
```
After

- The **prepend()** method operate in a similar manner except that they add the new element as the <u>first child rather than the last</u>.

```
▼<body>
   ▼<h2 class="prepend">
       <a href="http://www.bridgew.edu" , title="JQuery"> Visit us </a>
       "Bridgewater State University"
    </h2>
   ▼<h2 class="append">
       "Bridgewater State University"
       <a href="http://www.bridgew.edu" , title="JQuery"> Visit us </a>
    </h2>
    ▶<script>…</script>
··· </body> == $0
  </html>
html  body  h2.append  a
```

```
$("#prepend").prepend(jQueryLink);        Why?
$("#append").append(jQueryLink.clone());
```

A comparison of node creation in JavaScript and JQuery

node.html

Form Validation with JQuery

form.html

Exercise

- You must use JQuery.

Form validation Example with JQuery

```
••••   [Re-enter Password]   [Reset]  [submit]
```

Enter both passwords

Form validation Example with JQuery

```
••••        •••         [Reset]  [submit]
```

Your two passwords are not same

Form validation Example with JQuery

```
•••         •••         [Reset]  [submit]
```

Hooray! You have matched passwords!