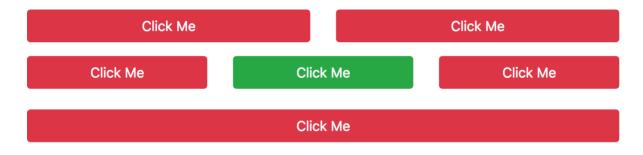
## Advanced Web Development and Web Scraping Spring 2022 Assignment #4 – Web Frameworks

**Note:** To receive credit for the assignment, either show your instructor the assignment during class or create a *zip* file of your webpages, and submit the *zip* file through Blackboard. I will look at your code and evaluate it by copying/pasting your code into Glitch.

- 1. The jQuery and Bootstrap tutorials on w3schools are great references for learning more about these frameworks. However for this assignment the following tutorials are the most relevant (not collected):
  - a. Bootstrap5
    - i. <u>https://www.w3schools.com/bootstrap5/bootstrap\_grid\_basic.php</u>
    - ii. <u>https://www.w3schools.com/bootstrap5/bootstrap\_buttons.php</u>
  - b. jQuery
    - i. <a href="https://www.w3schools.com/jquery/jquery\_selectors.asp">https://www.w3schools.com/jquery/jquery\_selectors.asp</a>
    - ii. <u>https://www.w3schools.com/jquery/jquery\_css.asp</u>
    - iii. <u>https://www.w3schools.com/jquery/jquery\_dom\_set.asp</u> (top only)
    - iv. <a href="https://www.w3schools.com/jquery/html\_attr.asp">https://www.w3schools.com/jquery/html\_attr.asp</a>
    - v. <a href="https://www.w3schools.com/jquery/jquery\_css\_classes.asp">https://www.w3schools.com/jquery/jquery\_css\_classes.asp</a>
- 2. Use Bootstrap and the appropriate col-sm-\* attributes to create a page with 3 rows that consist of 2, 3, and 1 columns (see screenshot below), by modifying the buttons.html file. All buttons have a "btn btn-danger" style. Use jQuery so that clicking on a button will change its style to "btn btn-success", and clicking the button again will change it back to "btn btn-danger". In order to do this, the jQuery methods hasClass, addClass, and removeClass will be useful.



## (after clicking on the middle button)



3. Specify the **jQuery** code that will do the following on the page below (Note: test your code by running it in the JavaScript console; your jQuery code will work because Wikipedia uses jQuery, so jQuery is loaded).

https://en.wikipedia.org/wiki/Eastern Connecticut State University

- a. Change the color of all links (all <a> elements) to red
- b. Add appropriate events so that when a user hovers over any element, that element (and none of its parents) are highlighted. An element should also be highlighted when moving from a child to one of its parents. Your code for this will be very similar to one of the examples covered in class, but your selector should select *all* elements.
- c. Change the style of the *h1* heading at the top of the page as follows:
  - i. Set the font color to white and the background color to black
  - ii. Set the position to *sticky* and its position 0 pixels from the top of the page. An element with a *sticky* position will scroll until it reaches the position specified by its css (such as 0 px from the top), and then will be fixed.
  - iii. Set the z-index to 1000, so that the heading does not get covered by other elements. (If two elements overlap, then the element with the larger z-index appears on top).

Note that you can set multiple CSS properties simultaneously by passing an *object* of CSS property values to the jQuery *css* function (although you can also call *css* multiple times). For example, the code below would set the font color and border of all *divs* on the page:

```
$('div').css({'color':'red', 'border': '1px solid black'})
```

- 4. Add **jQuery** statements to the *\$(document).ready()* function in the *links.html* page to do the following:
  - a. Change the color of the h1 header to red (or another color)
  - b. When the mouse enters (mouseenter event) a link element (an <a> tag), the web address is displayed in the div with id = "url" and the display of this div is set to "block"; when the mouse moves away from the link (mouseout event), the div with id "url" is hidden.