**CS230 Laboratory Assignment (HTML/CSS/JS)**

**(NB: This is Tuesday's Lab Assignment)**

**(i)** You are required to develop an HTML/CSS/JS application that takes plain text as input via an HTML TEXTAREA element (with id “input”). Then, write a JS function, textEncode() that uses a list of supplied words,to write colour-coded text to a DIV element (with id “output”) where all words in the original text that match words in the supplied list are styles using CSS to have white text on a blue background. All other words should be styled as black text with a white background. The default font of the TEXTAREA and DIV elements should be at least 12pt, and be sans serif.

You should provide two BUTTON elements: (i) a button (with id “encode”) that, when clicked, calls the function textEncode(), and (ii) a button (with id “clear”) that, when clicked, clears the TEXTAREA and DIV elements. All elements should have an accompanying CSS style associated with their id. The “input” and “output” elements should be aligned side-by-side, with the group centred on the page and have a 1px black box around each element. Both elements should have a 5px padding. Button elements should be aligned side-by-side, with the group centred on the page, and underneath the input and output elements.

The TEXTAREA (input) should contain default text (take the first paragraph from Jane Austen’s Pride and Prejudice at Project Gutenberg: <https://www.gutenberg.org/files/1342/1342-h/1342-h.htm#link2HCH0001>).

**(ii)** Your supplied words are the following list of helping verbs: A helping verb is a verb that adds functional or grammatical meaning to the clause in which it appears; for example, to express tense, aspect, modality, voice, emphasis, etc.

do be am is are was has had

been being have having were could should would

may might must will shall can did does

**(iii)** This is an open-book, graded assignment. You can use any resource available on the web, or in a textbook to help with the assignment. You must not engage with another student, in person or electronically (phone, web, etc.) to secure assistance with this assignment. If you do so you will receive an automatic fail (0%) as will submitting someone else’s work. A reasonable attempt at this assignment will gain you 5% of your continual assignment marks.

**(iv)** You should create a profile at [http://jsfiddle.net](http://jsfiddle.net/) to work on this assignment. You should submit the shared application link as part of the Moodle submission at the end of the class. Be sure that you share this link correctly. You should use the [W3 Schools HTML, CSS and JS](http://www.w3schools.com/css/) resources to help with this assignment. Copy and re-work the code provided to build a solution.

**(v)** If you finish early, then try the following (if you wish):

* For extra credit (1%), display a chart (using the HTML CANVAS element, or CSS styled text) under the buttons which provides a histogram showing the number of matched words in the input text.

For extra credit (1%), use the Parts of Speech (POS) tagging service provided <http://cst.dk/tools/index.php#output> to POS-tag some text which you can use as input to your application. Your application should remove the tagging and encode the determiners verbs and nouns with a CSS-styled colour. All other POS elements should be styled black text on white.