### IT-130, A7 – Fall 2020

**Part A (32 points)**

For this page you will create a very small calculator that calculates either the area or circumference of a circle. It will also provide the diameter. The formulas are:

* Area: PI \* radius\* radius
* Circumference: 2 \* PI \* radius

The value for PI is 3.14. So circumference is 2\*3.14\*radius, and area is: 3.14\*radius\*radius.

Have a text field in which you ask the user to enter a radius. Using concatenation, output a string that provides the area and the circumference.

**If/Else Practice:** Also – and I admit this is kind of silly – but it’s just to practice an if statement, do the following:   If the area is bigger than 20, output “This is a big circle”. Otherwise, output “This is not a big circle.” I would store this result in a string called, perhaps, ‘circleSize’.

**TIP**: Remember to always start with one small piece, and then build. For example, when working on your script, just worry about one currency and get it working. Then AND ONLY then, start taking care of the others.

**Concatenation Tip:** The previous comment about starting small and building definitely applies here. It’s easy to try to do too much with a concatenation and get lost due to a missing quote or + or similar. Start with small strings and make sure they are outputting correctly. Then (and ONLY then), add additional text to your string.

**Concatenation Tip #2**: You are going to be creating two strings, one long one that outputs the mathematical results (area and circumference, etc.), and the other that says whether or not it is a big circle. I would create the two strings separately, and then once they are both good to go (i.e. you’ve tested them and they clearly work separately), concatenate them into one longer string. Then output that string to your page using the innerHTML command. You do not *have* to do it this way, but it’s one possible technique.

Have semantic tag sections for heading, and main. Also have a div section somewhere inside your main section for outputting the results.

In an external stylesheet, create a simple class that changes the font to Helvetica, and the color of the text to blue. You can, of course, include any additional styles you like. (Don't get too caught up in this though – remember that the JavaScript is far more important for this course!). Apply this class to both the heading and main sections.

You must have a properly formatted string in the output section. For example, if the user types 3.5 in the radius text field, you should output *exactly* as follows (though, of course, with different numbers):

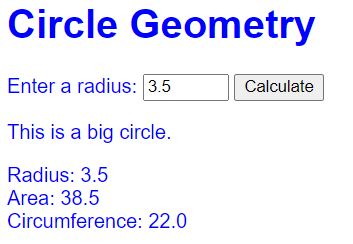
This is a big circle.

Radius: 3.5

Circumference: 22.0

Area: 38.5

When complete, your page should look something like this:



**Other Notes:**

* Note that in the example just above, I have a newline (i.e. a <br> after the pounds.   HINT: When creating your string to output to your <div> section, you CAN include HTML code. (Note that some web programmers don't particularly like <br>, however, we will use it here.
* **Required**: Also note that I have made the calculated values for both area and circumference show 1 decimal place. Recall the toFixed() function…
* **Bonus**: For up to an additional 4 points, instead of typing 3.14 for PI, use the Math library to get the value of PI (2 points), and to calculate the radius squared using Math.pow() function (2 points).

**Part B (8 points)**

1. Upload your files to the D2L submission page as usual.
2. Upload the files (html document, and external CSS file) to the web server.
3. **In the comments text area on the D2L submissions page, provide a working URL to this file.** For a review on how to come up with the appropriate URL, be sure to review the FTP lecture as well as the other resources (e.g. video and tip sheets) that I have made available to you on the Resources page.

The grader must be able to paste your URL into his browser window and view your page.