Homework 5: Functions
Due: Friday, Mar. 18th by 3:00pm

This homework is an individual assignment. Refer to the syllabus for appropriate collaboration policies. Your collaboration statement should be included in your hw05_distance.html page.

Part I: Graphics

Many applications in computer graphics involve determining the relative positions of pixels in the plane. The following formula computes the distance between two points \((x_1, y_1)\) and \((x_2, y_2)\).

\[
\sqrt{(x_1-x_2)^2+(y_1-y_2)^2}
\]

Create a Web page named hw05_distance.html that computes the distance between two arbitrary points. Your page should have:

- text boxes where the user can enter each coordinates \((x_1, x_2, y_1, y_2)\)
- a button which causes the distance calculation to be displayed on the webpage in the format given below.
- a function named \texttt{ComputeDist()} which is invoked by the button click and implements the formula described above.

The below figure demonstrates one possible view of the page.

Part II: Rounding

In class (and in Exercise 7.2 in your book), we discussed an algorithm to round numbers to 2 decimal places. This algorithm can be generalized to any number of decimal places by using the appropriate power of ten. For example, to round to 2 decimal places as discussed in class, you multiply and divide by 10^2 or 100. To round to 3 decimal places, you multiple and divide by 10^3 or 1000, and so forth. To round a number to \(N\) digits, you multiply and divide that number by \(10^N\).

Make an HTML page named hw05_round.html which has:

- Two textboxes.
One should allow the user to enter the number they want rounded.
The other should allow a user to specify the number of decimal places to which the number should be rounded.

- A button which causes the result to be displayed on the webpage.
- A function named `RoundMyNum()` which is invoked by the button click and implements the algorithm described above.

The below figure demonstrates one possible view of the page.

![Image of a webpage displaying a form for rounding a number.]

**Round My Number**

What number would you like to round? 1.23456789

How many decimal places should I round it to? 6

Round it!

1.23456789 rounded to 6 decimal places is 1.234568

Notes:

- Both of your webpages and all functions should have appropriate comments.
- Be sure to include your collaboration statement in your `hw05_distance.html` page.

**Submit**: Submit both `hw05_distance.html` and `hw05_round.html` to Blackboard for HW05. Make sure that both files are attached to one submission (in other words, do not attach one to one submission and then the second to another submission).