Matlab Homework 2*a*

In the online book:

- Do the "Challenge Activities" of: 3.1-4,8

- Do the "Participation Activities" of: 4.1-3,12; 5.1,4,5,7

Matlab Homework 2*b*

The same general requirements as for homework 1b apply. You must study the posted lesson(s) before you can ask a TA or the instructor for help.

In addition, no longer use the default variable 'ans'. Use an easy to understand variable name instead. And do not print out hundreds of raw numbers, the TAs do not have time to read them all.

1. Use Matlab to evaluate the following quantities. For each quantity use `disp` to display exactly what you evaluated in the results. And use variable names `ans1a`, `ans1b`, ldots

   (a) 1/Inf
   (b) Inf/Inf
   (c) Inf-Inf
   (d) $((10^{10})^{10})^{10}$
   (e) $1 + (3 * (5^{0.5}))$ in the order shown using the minimal number of parentheses needed.
   (f) $((1 + 3) * 5)^{0.5}$ in the order shown using the minimal number of parentheses needed.
   (g) Evaluate Bessel function $J_0(x)$ at $x = 1$. (Hint: Probably you do not know this function. To figure it out, recall figure 3.4.3 and table 3.4.4 in the online book. Also note that Matlab uses lowercase for functions. Then try Tab completion. The correct value starts as 0.7...)

2. Assign the values 1, 2, and 3 to variables A, B, and C, respectively. Then move the original value of B to C, of A to B, and of C to A (without using the values explicit). Use no more than one additional variable.

3. Reconsider your function `coneVolume(r,h)` from homework 1. Fix this function so that it works correctly even if radius `r` and height `h` are arrays. Try it out with arrays `r` = [1,3,2] and `h` = [3,1,7] and show that you get the same three volumes as in homework 1. Also try it out with `r` = [2,3,4,5,6] and `h` = [11,9,7,5,3], each written as concisely as possible (i.e. with the minimum number of characters possible). Use `disp` to show the grader how you created the last two arrays.

   Also solidly comment your function, fully explaining purpose, input arguments and output argument. Demonstrate that

       help coneVolume

   produces full information on your function to anyone who enters that command. As an example, see `sqr.m.txt` in "Homework Solutions" section on the class web page.