MeEn 537 Homework #2

1. Work the following problems from your textbook:
   (a) 2-38
   (b) 2-39
   (c) 2-40
   (d) 2-43
   (e) 3-4 (make sure to include a sketch and assigned coordinate frames as part of your solution)
   (f) 3-6 (make sure to include a sketch and assigned coordinate frames as part of your solution)
   (g) 3-8 (make sure to include a sketch and assigned coordinate frames as part of your solution)
   (h) Using one of the software tools (MATLAB Robotics Toolbox or Sympybotics) select link lengths for the robot in 3-8 and represent the robot in software. Using forward kinematics, find an approximate way to determine the reachable workspace of the arm. The reachable workspace is the 3D space that the robot can reach, regardless of orientation of the end-effector at that point. Turn in your code and a plot of your visualization of the workspace. I'm not asking for a high spatial resolution solution, just an approximation. This is purposefully an open-ended problem.

For problems (e) through (g), you can use software to help you find the symbolic solutions. However, please make sure you know how to do it by hand.