Hi All,

The following are objectives for the upcoming week - this is going out a little late. Feel free to submit through Sunday. Objectives for the follow-on week, however, will continue to be sent Sunday evening/Monday morning to keep things on schedule.

1. Create and populate a function, jacobian(), in your MechBot class. You have some freedom in how you would like to define this function.
   1. However, it should effectively use the current robot configuration (ie. joint angles), a reference frame and an end-effector frame.
   2. The output will be an **3-by-N matrix** that maps joint velocities (vector of length, N) to velocity twist coordinates, [ x\_dot, y\_dot, omega], representing velocity of the end-effector frame, with respect to the reference frame.
   3. Keep in mind the function should allow for arbitrary selection of the waist/torso, left foot and right foot as reference or end-effector frames.
2. Pick a leg. Perform resolved rate kinematics to move this leg in a prescribed trajectory. Deliverables include:
   1. Plots of joint angles vs. time
   2. A plot of foot position vs. time
   3. For select time instants (your choice) overlay a visualization of the foot frame on the 2nd plot
   4. Update your stick figure visualization from Week 01. For each time instant in your prescribed trajectory, update the plot (ie. using Matlab's set(plot\_hdl, 'XData', ..., 'YData', ...) built-in function) with the robot's new joint configuration. This should create an animation/video of your biped executing your prescribed trajectory. Remember to use Matlab's 'pause' command to introduce delays in the animation sequence.
3. Make any corrections from feedback of Week 1's objectives.

Best,

Alex