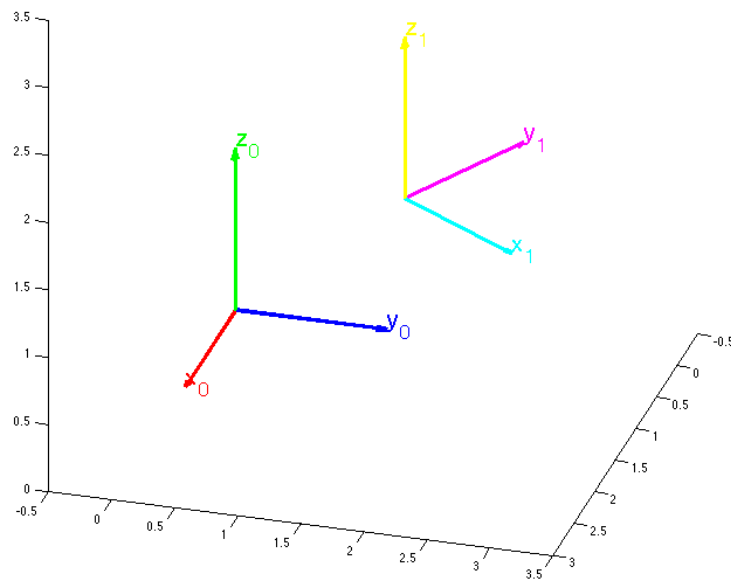


## Parameterization and Visualization of Rotations

1. Write a Matlab function *euler2r* to compute a rotation matrix given Euler ZYZ angles.
2. Write a Matlab function *r2euler* to compute the Euler ZYZ angles given a rotation matrix. Ensure that it works for all cases.
3. Write a Matlab function *angleaxis2r* to compute a rotation matrix given an angle and axis.
4. Write a Matlab function *r2angleaxis* to compute the angle and axis given a rotation matrix. Ensure that it works for all cases.
5. Write a Matlab function *displayframes* to display the coordinate frames represented by a rotation matrix. An example is shown below where the function has been called twice to display two frames.



Turn in a print-out of your well-commented m-files (functions with comments above that display with help), results clearly presented for test cases (note using forward and inverse functions to test each other might be a good idea; also test special cases), and plot(s) from your 3D display of coordinate frames.