Introduction:

For this lab you will create a MatLab GUI that can find the distance of a ball given left and right images. You will need to read in both images, find the centroid of the ball in each image, and use the centroid data to find the X,Y,Z position of the ball in 3D space. Your module:

- shall be able to detect the ball distance with all five sets of provided stereo images

- shall display the X,Y,Z distance of the ball

- Investigate different techniques of finding the centroids of the ball

   - Different color spaces (YCrCb, Grayscale, B&W, etc.)

   - Based on shape (found circle vs bounding box)

- shall include a document which compares and contrasts the difference in X,Y,Z position accuracy and/or processing time (you can use MatLab's "profile" commands) between all (at least 3) techniques that you used

Due Date:

You have two lab cycles for this lab.

Lab Submission:

1. Submit a video or screen shots demonstrating functionality

2. Submit your (professionally commented and structured) source code files

3. Submit your analysis document / report

Grading:

Grade	Description
0	Lab handed in late, or not handed in
1	Poor quality
2	Good quality