This lab assignment should be done in teams of two. Go through the exercises below and show me your results. If you don’t finish by the end of today’s class, you may show me during the next class.

Read in the image “coins.png” in MATLAB.

1. Apply the Canny edge detector to the image, using:
   
   ```matlab
   [E, thresh] = edge(I, 'canny', [], sigma);
   ```
   
   We pass in empty brackets for the threshold to use. This tells the edge detector to automatically calculate the threshold. It returns the output edge image along with the calculated threshold (a high and a low threshold).

   Vary the value of sigma.
   - What is the lowest value of sigma where you just detect the outlines of the coins, and no interior features?
   - At that value of sigma, what is the low threshold and what is the high threshold?

2. Now, vary the threshold while keeping the sigma constant, using:
   
   ```matlab
   E = edge(I, 'canny', [0.4*tHigh tHigh], 1.5);
   ```
   
   Here, we pass the two element threshold to use. The low threshold is always set to 0.4 times the values of the high threshold.

   Vary the value of the high threshold.
   - What is the lowest value of the threshold where you just detect the outlines of the coins, and no interior features?

3. Apply the Canny edge detector to the image shown, which can be found at the website http://people.csail.mit.edu/bkph/pictures. Adjust the algorithm parameters (i.e., thresholds and sigma) to try to get the best results, in terms of finding the edges of the blocks, and no other edges. Give the best result you can achieve and report the algorithm parameters used.