**Lab 6 Overall:**

* Apply Canny Edge Complete
* Identify the circles
  + Identify possible centers
  + Find the radius
* Identify the type of coin
  + Based on the radius & color

**Lab 6.1:**

Principles/Steps:

* Thresholds
* Voting - Use Algorithm Hough Transform circle detection

1. Create a 2D matrix for votes filled with zero
2. For every edge(1)
   1. Vote on the direction of the gradient (use the unrounded angle)
   2. Use bresenham algorithm for finding the line
      1. Find the intersection points with the border (Given edge, angle)
         1. Use bresehem for the extremities
            1. **Optional Optimization:** Find max size of a coin

Vote only 80 pixels up/down

* 1. Along the line find all the pixels on the line and vote for each pixel

1. Pick a threshold
   1. If less than threshold, not a center
   2. If greater than or equal to threshold, possible center (Canidates for Center)

* Create imageV.ppm from vote matrix (Grayscale Image)
  + P3 width height max#votes
* Create imageCC.ppm
  + Find centers and overlap them over the original image
  + P3 width height max
  + Draw a circle of radius 1,2,3 in red