**Project 6 Part 2 Coin detection Complete**

[Project 6 Part 2 Coin detection Complete](https://fcps.blackboard.com/webapps/blackboard/content/listContent.jsp?course_id=_1516674_1&content_id=_43601203_1&mode=reset)

Name of file l062.cpp

Your main should call only the folllowing method:

Create part2() method that does the following:

1) read the file image.ppm (image will contain an image of coins)

2) create the file imagef.ppm by applying the complete canny edge detection from previous lab (optimize the values to work best for the easy file I provided)

3) use the edge you found and gradient direction to implement voting and create the imagev.ppm that displays the result of the phase 1 voting for centers.

4) Use the results of voting and a threshold value to pick good candidates for circle centers.

5) For each candidate for circle center count the edges that are at distance min, then at distance min+1 all the way to max (where min and max are values you decide to be the min radius of a coin and max radius of a coin)

6) Set a threshold (a value or a percentage) of when a certain count is a circle (that can be a value or a percentage) and obtain a list of centers and radii.

7) Classify each circle as a penny, quarter dime, silver dollar based on radius value.

8) create the file coins.ppm obtained by drawing in white all edges then use colors (red for penny,**purple for nickel**, blue for dime, green for quarters and  yellow for silver dollar) to draw a circle around each coin detected using the correct color

9) display on the screen and in the file results.txt a summary of he coins you found ( **Ex: 10 quarters, 5 dimes,... Total sum: $10.50)**

10) complete the document below.

Hints: use Bresenham's algorithm to vote on the direction of the radiant. Also a good improvement would be to calculate the intersection points on the extremes so the line is more close to reality compared to using 2 very close points in which case the line will be off.

Submit the following document after your code runs on the easy image I provided (which you will transform in p3 ppm file using the convert tool on gnu linux:

[Project 6 Coin Detection Part 2.docx](https://fcps.blackboard.com/bbcswebdav/pid-44796386-dt-content-rid-50640512_2/xid-50640512_2) [Project 6 Coin Detection Part 2.docx - Alternative Formats](https://fcps.blackboard.com/webapps/blackboard/content/listContent.jsp?course_id=_1516674_1&content_id=_43601203_1&mode=reset)

Your code will be tested against any of the 3 images I provided or any piece of them,