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Homework 3

1C. It appears that 1B2 is the reversal of 1A, which is interesting because they seemingly don’t have much in common between each other. When subtracting 1A from 1B2, you get 1A back. If you were to do it in reverse, you would get 1B2 as the result.

Question 1 – A, B1/2, and C are located within the file q1.py. The output image for A is called q1-a.tif, the image for B1 is q1-b1.tif, and so on respectively for each question part. To execute and view these images directly from the Python file, run ‘python q1.py’.

Question 2 – I attempted multiple different techniques for this one, including image overlaying after binary thresholding on both images to remove shadows (and keep trees that were consistent from both images), blur techniques, and also adaptive thresholding. This was all done in OpenCV. To view the results, you can run `python q2.py` to view the results of my various techniques and `python q2-2.py` to view the overlay technique.

Question 3 – I followed your recommended method by applying binary image thresholding on the black/white image followed by applying closing to the image, and finally applying contouring to the image to isolate the fish. One caveat is that the jar on one of the images is also largely captured, and I couldn’t figure out a way to avoid this without just manually getting rid of it. To run this section, you can either call `python q3.py` or `python q3-2.py`.