CSci 4270 and 6270
Computational Vision,
Spring Semester, 2021
Lecture 08 Exercise — Hysteresis Thresholding
Due: Wednesday, February 24, 2021 at 11:59pm EST

Preliminary Notes

Based on the survey, I'm giving you more than 48 hours to finish this lecture exercise and will continue to do so through out the rest of the semester.

Problem

We discussed three thresholding methods in class. In this lecture exercise your job is to implement the third of these methods — double or hysteresis thresholding.

You are given a text file (not an image) with three integer values per line: an x location, a y location and a gradient magnitude. You are also given on the command-line the two threshold values θ_1 and θ_2, with $\theta_1 \leq \theta_2$ (no need to check). The x values and the y values of each pair of consecutive pixel locations differ from each other by no more than one, so the input pixels locations form a chain. Your problem is to output each x, y location from the input that pass the double thresholding test described in the notes from class.

You are allowed to use for loops as you wish. My solution does not employ NumPy at all.

Per usual, we have provided a starting Python file and examples.