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- a. I attempted to use the optimized loop provided by the TA. It worked in my first iteration, but after changing the code to try and use OpenCL, it doesn't work anymore. Because of this, I turned the loop back to its original state. I attempted to parallelize the program by its depth like in the OpenMP example. My attempts in using OpenCL however resulted in incorrect results, with a time of 0.0 seconds. Because no errors were stated, I assume I wrote the program wrong. After attempts of fixing it, I decided to omit the OpenCL implementation since it gave incorrect results.
- b. Challenges I encountered during this project were making the Makefile. Because OpenCL needed different commands, it was a small challenge. I used the TA's implementation of the makefile as an example to make this. The next challenge was learning OpenCL. After reading and learning it, I attempted to use it on the discrete transformation program. Compile errors came as I slowly fixed them. However, the program ran with 0 seconds and outputted the wrong information without a way to figure out what went wrong. I'm not quite sure how to implement OpenCL in this program.
- c. Performance is 1x since my attempts at optimizing the program didn't go well.
- d. If the OpenCL implementation worked, the program would have gained performance since the work would be divided up in the GPU. However, since I could not figure out how to use OpenCL to give the correct result, I omitted the code involving OpenCL and ended up with 1x fast.