Course: CSI2120
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In order to calculate the optimal number of threads for my program for runtime, I added code to the 'main' function which would output the runtime of my algorithm in milliseconds. I tested 8 different thread amounts and for each thread amount, I took the average time among 3 runs of the code. Below are my results in milliseconds.

Threads	1	5	8	15	20	22	30	100
Test 1 (ms)	1109	106	107	88	80	80	87	1065
Test 2 (ms)	1182	114	114	89	88	87	99	1091
Test 3 (ms)	1172	125	111	93	95	97	84	1166
Average	1,154.33	115.00	110.67	90.00	87.67	88.00	90.00	1,107.33

As seen in the table, the fastest speed occurs at around 20 threads so that's the number of threads I chose. Of course there is still a small amount of error, however the runtimes parabola upwards as you deviate from 20 threads.

Time vs. Threads