

1. What is the largest number of workers M that your implementation supports?

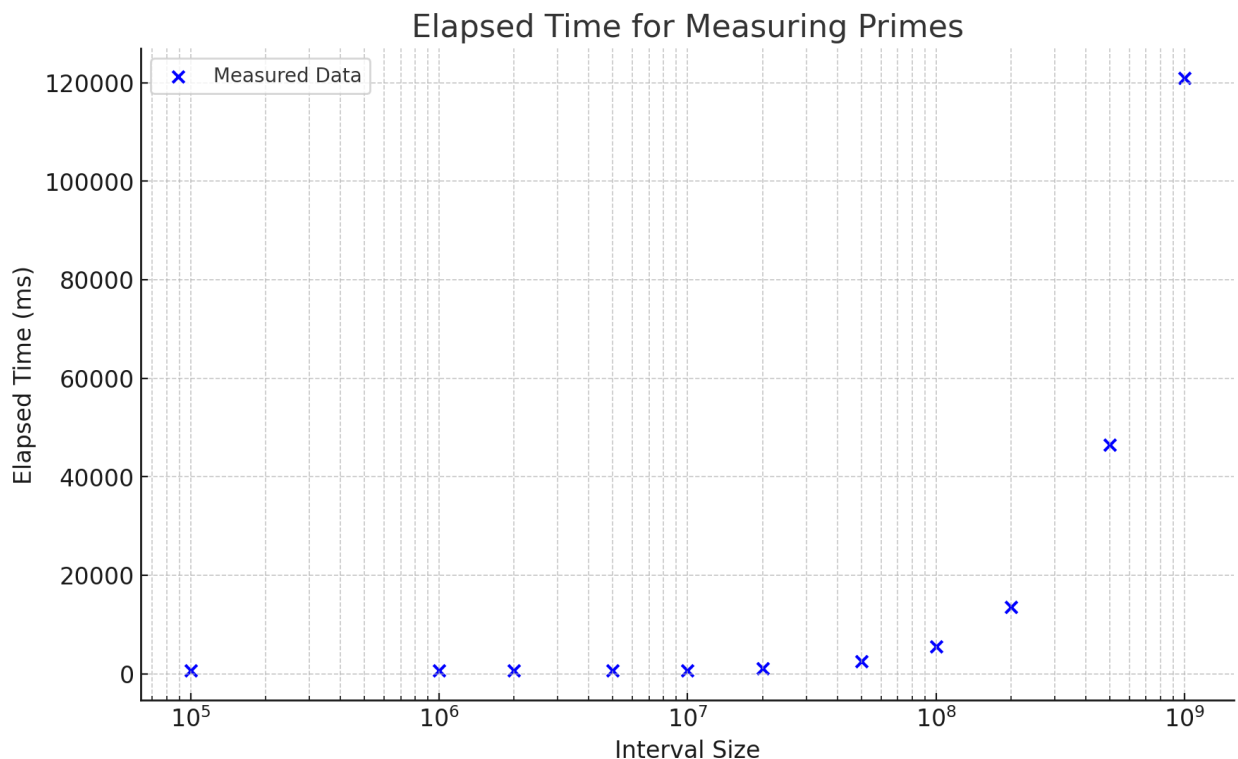
My implementation supports up to 1 million workers, exceeding this causes the program to hang excessively

2. What is the least (expected) elapsed (wall) time for a random datafile of 1GB in your implementation?

The program compute time seems to scale logarithmically with size depending on block size and amount of workers. It increases quickly between 100,000, 1 million, 10 million, and 100 million. For the 1GB file, it calculates in 120 seconds or less.

3. What is the largest (random) datafile you can process within 3 mins (wall) elapsed time?

1.29 billion integers according to this chart projection



4. How does the elapsed time change as M ranges from 1 to the maximum value in Q1, for the datafile and N , C parameter values in Q3?

The elapsed time increases sporadically since the increased amount of workers causes a larger bottleneck on the buffered channel (job queue).