Denis R[redacted]

[redacted]

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Q1)

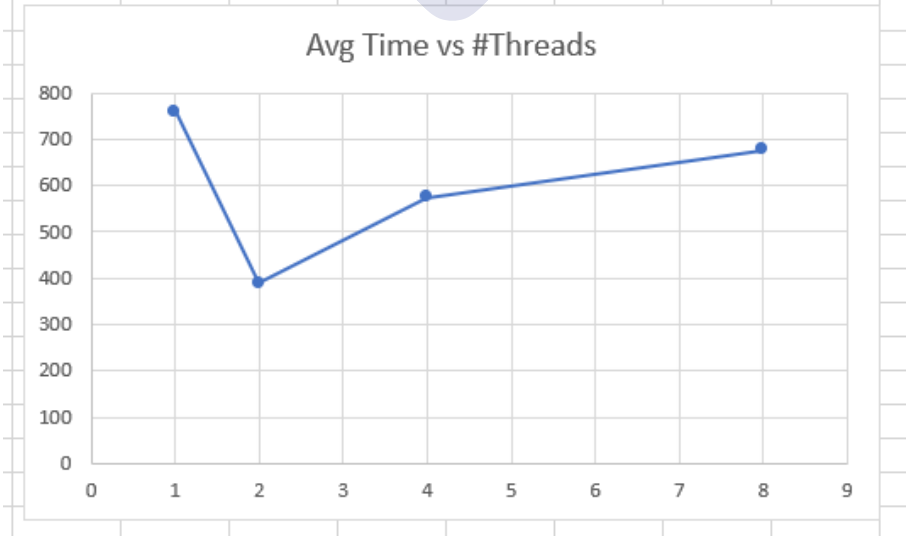
Input size: 5 000 000 char array size

#Threads	Run #1	Run #2	Run #3	Avg (millis)
0	783	806	772	787
1	677	658	726	687
2	617	637	795	683
4	755	536	557	616
6	509	551	652	571
8	923	774	1256	984
16	537	655	1145	779

These tests were running on an I7-8700 6 core machine. We can observe slight speed up going from 0 to 6 threads. Beyond that point run time increases for the given input size and the consistency of our results is diminished. The small speedup is probably caused by the overhead of creating FutureTasks and MergeWorkers.

Q2)

#Threads	Run #1	Run #2	Run #3	Run #4	Run #5	Avg
1	764	753	762	768	749	758
2	402	384	379	384	408	388.75
4	592	578	570	571	579	574.5
8	670	662	666	662	714	676



We observed a speedup going from 1 to 2 threads, but not for 4 and 8 threads. The main bottleneck is the use of a mutex lock to build safely a new conflicting set.