

- a. Los Angeles, CA
57 counters needed
- b. Orange, FL
51 counters needed
- c. Harris, TX
25 counters needed
- d. Hamilton, OH
7 counters needed
- e. New Castle, DE
5 counters needed

Note: simulation time for processing for all provided inputs was 0.0 seconds

Task 1 had complexity order of $O(n)$ because reading the contents of the CSV file into an arraylist was $O(n)$ and sorting by start time was also $O(n)$.

So, $O(n) + O(n) = O(2n) == O(n)$.

Order of complexity for task 2 items:

'getReportByCountyAndState' filter method = $O(n)$ as it goes through all given items (n) once.

'calculateCounters' method is $O(n m^2)$ as it first calls 'getReportByCountyAndState' which is $O(n)$ and then goes through the resultant list twice (once to put in queue and a second time to process queue) which is $O(m^2)$ resulting in a final order of complexity of $O(n m^2)$.

Task 3 has the same order of complexity as task 2 because they are using the same code.