

1.

time	source	#chars
0.150	487614	1000
0.206	487614	2000
0.350	487614	4000
0.797	487614	8000
1.620	487614	16000
3.224	487614	32000
6.554	487614	64000
10.259	487614	128000
18.232	487614	256000
28.229	487614	512000
27.958	487614	1024000
0.447	487614	4096
1.064	975228	4096
1.594	1462842	4096
2.088	1950456	4096
2.648	2438070	4096
3.104	2925684	4096
3.897	3413298	4096
4.364	3900912	4096
4.258	4388526	4096
4.170	4876140	4096

Here you can see that the numbers support a $O(NT)$ analysis because when you look at two cases where the N and T values are multiples they have increase by the same amount across the two different variations of test (changing N vs changing t)

2.

time	source	#chars
0.290	487614	1000
0.223	487614	2000
0.257	487614	4000
0.221	487614	8000
0.264	487614	16000
0.237	487614	32000
0.306	487614	64000
0.377	487614	128000
0.411	487614	256000
0.417	487614	512000
0.563	487614	1024000

0.224	487614	4096
0.527	975228	4096
1.026	1462842	4096
1.467	1950456	4096
1.954	2438070	4096

As you can see from the data above when N is kept constant and T is changing there is a very small difference in time from the first group of 1000 to the last one of over a million. When you keep T constant and vary n however the time changes at a much higher pace. I don't think this goes with the $O(N + T)$ analysis because if that were the case then both times should theoretically be changing at the same rate. Clearly when N and T are much larger combined in the top set the time is much lower then in the second set.

3.

were ready to get a divorce, Marcus. Oh, it doesn't matter why anymore. It was just a bad patch, the kind of thing that you see car chases on in action movies, with cars catching air as they soar over the zenith. I always take the hard way home. It's all residential streets, and the old Victorian houses they call "painted ladies" for their gaudy, elaborate paint-jobs, and front gardens with scented flowers and tall grasses. Housecats stare at you from hedges, and there are hardly any homeless. It was so quiet on those streets that it made me wish I'd taken the *other* route, through the Mission, which is... *raucous* is probably the best word for it. Loud and vibrant. Lots of rowdy drunks and angry crack-heads and unconscious junkies, and also lots of families with strollers, old ladies gossiping on stoops, lowriders