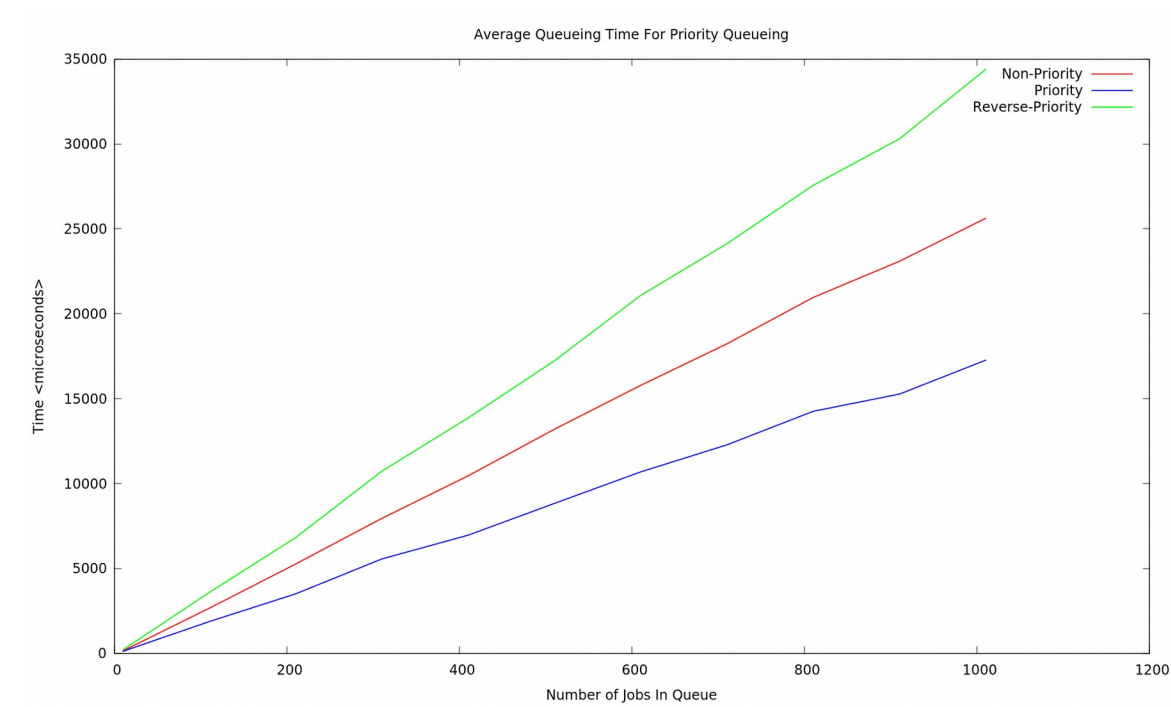


.dat File:

#n	NP_n/3	P_n/3	RP_n/3	NP_2n/3	P_2n/3	RP_2n/3	NP_n	P_n	RP_n	NP_AQT	P_AQT	RP_AQT
10	59	34	163	161	129	237	258	258	258	152.2	123.6	211.8
110	1685	657	2935	3489	2444	4696	5318	5318	5318	2659.13	1873.56	3589.47
210	3663	1149	5569	6827	4730	9094	10171	10171	10171	5259.67	3502.92	6813.38
310	5466	1943	8861	10396	7341	14226	16133	16133	16133	7950.95	5562.65	10726.5
410	7014	2358	11587	13608	9151	18346	20672	20672	20672	10453.8	6959.76	13863.5
510	9102	3074	14325	17272	11713	22898	25904	25904	25904	13195.6	8829.96	17226.4
610	10419	3488	17405	20962	14273	28156	31608	31608	31608	15783.1	10686.1	21077.4
710	11917	4312	20151	24832	16165	31972	36249	36249	36249	18225.9	12279.5	24122.7
810	14106	4990	22704	28048	19095	36741	41661	41661	41661	20957.1	14254.5	27560.8
910	15566	5189	25262	30801	20223	40264	45419	45419	45419	23088.8	15268.8	30299.9
1010	17000	5699	28620	33771	22951	45837	51502	51502	51502	25621.4	17267.4	34387.5

Above is a screen shot of the .dat file outputted from my code. The first column is the number of jobs in the queue and the next nine columns represent the waiting times for three jobs of three different priorities. NP is non-priority, P is priority, and RP is reverse priority. Next to the priority for each column title is which job in the queue this waiting time is for (i.e. n/3 refers to the job number equal to the total number of jobs divided by 3). The last three columns are the average queuing times for each priority type and are there for the purpose of using them to plot the average queuing times on gnuplot using this .dat file.

Plot:



Observations:

In the .dat file you will notice that for each job size at the first two deterministic indexes, reverse priority has the highest waiting times, non-priority comes second, and priority has the lowest. For the (n) index the waiting times are the same for each priority which makes sense since by the last index every job would be accounted for and the order they are listed in (i.e. priority) wouldn't matter. As a result, the average queuing times plotted in the graph above are similar to the waiting times as reverse priority is the highest, non-priority comes second, and priority is the lowest. The extra time it took to

quick sort the jobs in order of priority was short enough to make the priority queue have a shorter average queuing time than the non-priority queue.