Jonathan Masukawa (33128396) Yan Zhao (31018809) Group #32

Based on our results, turnaround and waiting time wasn't shown to be better or worse depending on the relationship between average priority and average burst, as worded by the question. This is simply because the distribution is normalized. For example, burst 30 and average priority 2 will have the exact same statistical appearance as burst 30 and average priority 7, since the source data with average priority 7 will have the same shape, just with all process priorities on average being shifted up 5 more values than the priority 2 average source data. By increasing the burst from 30 to 70, we see the same shapes repeated but everything just takes longer.

I think what this question really means to ask, is how does the placement of the average burst distribution along a range of priorities affect the turnaround and waiting time. In this scenario, having processes with priorities inversely proportional to their CPU burst would greatly increase the performance of your algorithm, due to the fact that higher priorities will have lower burst times, and lower priorities will have higher burst time. Preemption will exaggerate this effect, and make the wait and turnaround times even less. This will mimic behavior similar to a SJF.

Data Source	Information
Processes	250
Average Burst	Varies
Average Arrival	20
Average Priority	Varies

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Processes - 250, Avg Burst - 30, Avg arrival - 20, Avg Priority - 2

Priority (non-preemptive) B30 P2

	Wait	Response	Turnaround
Min	0	0	1
Mean	784.44	784.44	812.22
Max	6754	6754	6795
StdDev	1665.53	1665.53	1687.69

Processes - 250, Avg Burst - 70, Avg arrival - 20, Avg Priority - 2

Priority (non-preemptive) B70 P2

	Wait	Response	Turnaround
Min	0	0	48
Mean	5585.54	5585.54	5652.56
Max	16488	16488	16569
StdDev	1827.88	1827.88	2031.47

Processes - 250, Avg Burst - 30, Avg arrival - 20, Avg Priority - 2

Priority (preemptive) B30 P2

	Wait	Response	Turnaround
Min	0	0	1
Mean	792.26	658.16	820.04
Max	6754	6754	6795
StdDev	1703.43	1543.63	1725.81

Processes - 250, Avg Burst - 70, Avg arrival - 20, Avg Priority - 2

Priority (preemptive) B70 P2

	Wait	Response	Turnaround
Min	0	0	22
Mean	5640.5	5517.91	5707.52
Max	16488	16488	16569
StdDev	2010.87	1751.6	2197.33

Processes - 250, Avg Burst - 30, Avg arrival - 20, Avg Priority - 7

Priority (non-preemptive) B30 P7

	Wait	Response	Turnaround
Min	0	0	1
Mean	789.02	789.02	816.8
Max	6383	6383	6424
StdDev	1678.39	1678.39	1700.3

Processes - 250, Avg Burst - 70, Avg arrival - 20, Avg Priority - 7

Priority (non-preemptive) B70 P7

	Wait	Response	Turnaround
Min	0	0	29
Mean	5562.49	5562.49	5629.52
Max	16046	16046	16121
StdDev	1649.16	1649.16	1873.11

Processes - 250, Avg Burst - 30, Avg arrival - 20, Avg Priority - 7

Priority (preemptive) B30 P7

	Wait	Response	Turnaround
Min	0	0	1
Mean	806.95	660.7	834.73
Max	6577	6148	6612
StdDev	1707.33	1512.14	1729.61

Processes - 250, Avg Burst - 70, Avg arrival - 20, Avg Priority - 7

Priority (preemptive) B70 P7

	Wait	Response	Turnaround
Min	0	0	22
Mean	5657.4	5469.43	5724.43
Max	16075	16075	16156
StdDev	1935.22	1549.72	2128.45

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Wait

	Pri (np) B30 P2	Pri (np) B30 P7	Pri (np) B70 P2	Pri (np) B70 P7	Pri (p) B30 P2	Pri (p) B30 P7	Pri (p) B70 P2	Pri (p) B70 P7
Mean	784.44	789.02	5585.54	5562.49	792.26	806.95	5640.5	5657.4
Max	6754	6383	16488	16046	6754	6577	16488	16075
StdDev	1665.53	1678.39	1827.88	1649.16	1703.43	1707.33	2010.87	1935.22

Response

	Pri (np) B30 P2	Pri (np) B30 P7	Pri (np) B70 P2	Pri (np) B70 P7	Pri (p) B30 P2	Pri (p) B30 P7	Pri (p) B70 P2	Pri (p) B70 P7
Mean	784.44	789.02	5585.54	5562.49	658.16	660.7	5517.91	5469.43
Max	6754	6383	16488	16046	6754	6148	16488	16075
StdDev	1665.53	1678.39	1827.88	1649.16	1543.63	1512.14	1751.6	1549.72

Turn Around

	Pri (np) B30 P2	Pri (np) B30 P7	Pri (np) B70 P2	Pri (np) B70 P7	Pri (p) B30 P2	Pri (p) B30 P7	Pri (p) B70 P2	Pri (p) B70 P7
Mean	812.22	816.8	5652.56	5629.52	820.04	834.73	5707.52	5724.43
Max	6795	6424	16569	16121	6795	6612	16569	16156
StdDev	1687.69	1700.3	2031.47	1873.11	1725.81	1729.61	2197.33	2128.45

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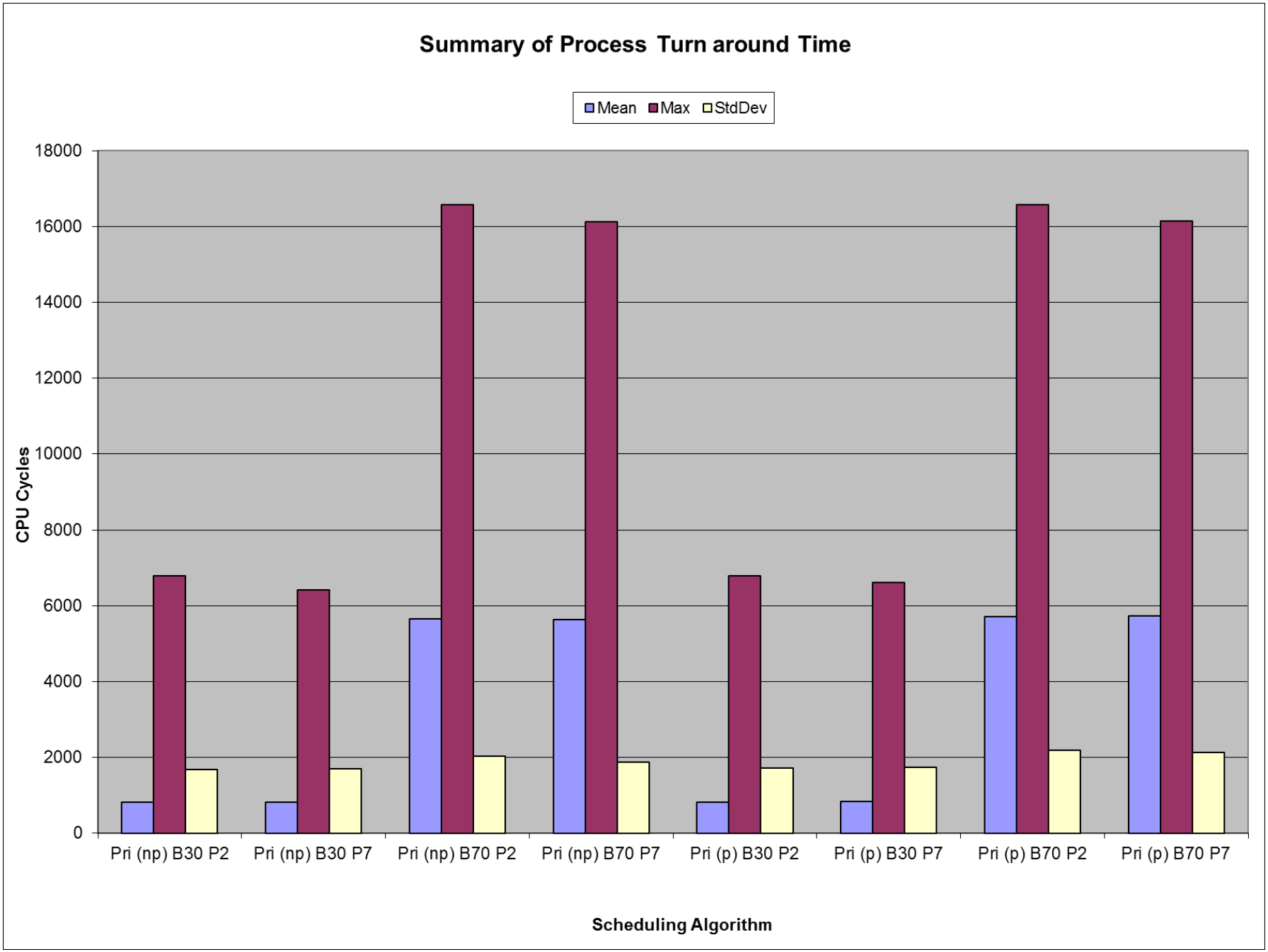

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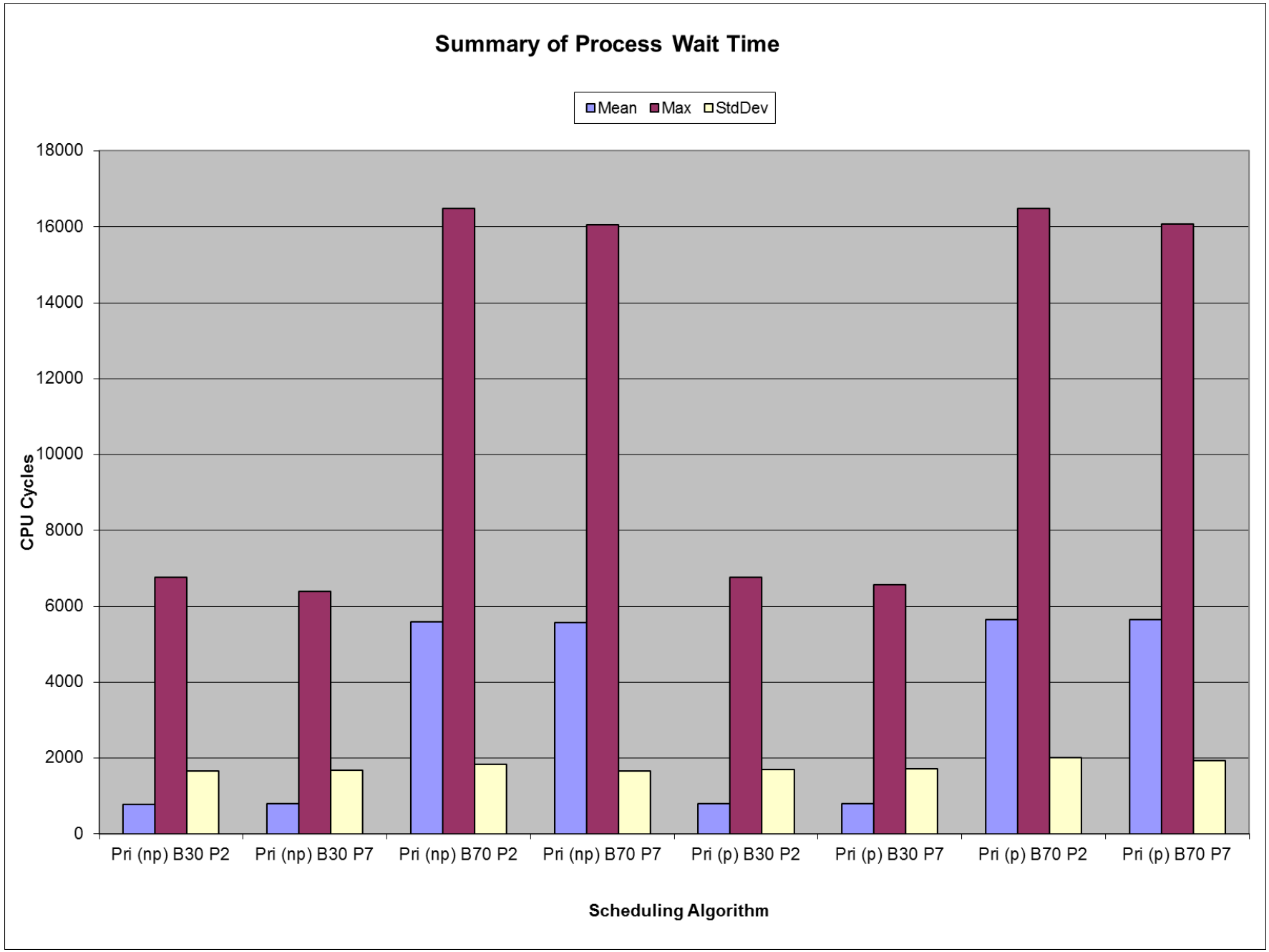

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