

# Rate Monotonic Analysis

Raw Measurements (In Nanoseconds)

Arrival Sensor	Elevator Button	Floor Button
1770700	175600	8651100
3337200	13500	1031300
511600	13200	640600
487300	11600	348800
884100	11400	443400
415300	11800	255400
897700	34100	295200
127800	11500	208200
342700	15000	332700
241300		259900
355900		259600
238800		200500
217800		
190900		
278300		
206900		
372500		
279000		
130300		
162400		
204700		
153600		
366800		
170300		
199100		
160600		
207400		
263800		
141700		
218800		
241900		
166200		
170800		

227700		
145200		
364600		
217900		
313400		
254800		
147100		
247400		
169200		
126900		
137600		
140600		
146900		
213200		
138900		
141100		
148800		
150300		
210800		
154000		
136100		
314000		
271300		
148400		
172200		
125700		
161000		
114600		
128500		
243300		
161500		
169600		
163100		
123200		
144500		
328000		
97600		
135800		
139900		

97200		
153500		
119000		
138300		
200000		
109700		
142700		
199700		
186500		
98700		

	Arrival Sensor	Elevator Button	Floor Button
<b>Average:</b>	276026.8293	33077.77778	1077225
<b>Average (ms):</b>	0.276	0.033	1.077
<b>Variance:</b>	165240739271	2908551944	5744575363864
<b>Standard Deviation:</b>	406498.1418	53930.99243	2396784.38

Process	T	C	P	U
Arrival Sensor	50	0.276	3	0.00552
Elevator Button	100	0.033	2	0.00033
Floor Button	200	1.077	1	0.005385

**Combined Utilization:  $0.011235 = 1.1\%$**

Since the combined utilization of the 3 processes is 1.1%, which is below 69.3%, the process set will always be schedulable.