

Rate Monotonic Scheduling

Process	Period (ms)	Computation Time(ms)	Priority	Response Time
Arrival Sensors	50	63.125		1.2625
Elevator Buttons	100	288.2083		2.8821
Floor Buttons	200	20.4583		0.1023

Total = 4.2169

The utilization time is 42.169% which is below the theoretical bound of 77%. This system of three processes is schedulable (which means that each of the processes can meet its deadline).

Arrival Sensors Interface:

From the arrival_sensors.txt file, we took 24 observations and calculated the mean, standard deviation and variance. The following results are shown below:

Mean = 63.13 (using the AVERAGE function in MS Excel)

Standard deviation = 79.88(using the STDEV function in MS Excel)

Variance = 6380.81 (using the VAR function in MS Excel)

Elevator Buttons Interface:

From the elevator_buttons.txt file, we took 24 observations and calculated the mean, standard deviation and variance. The following results are shown below:

Mean = 288.21 (using the AVERAGE function in MS Excel)

Standard Deviation = 23.89 (using the STDEV function in MS Excel)

Variance = 571.04 (using the VAR function in MS Excel)

Floor Buttons Interface:

From the floor_buttons.txt file, we took 24 observations and calculated the mean, standard deviation and variance. The following results are shown below:

Mean = 20.46 (using the AVERAGE function in MS Excel)

Standard Deviation = 34.53 (using the STDEV function in MS Excel)

Variance = 1192.52 (using the VAR function in MS Excel)