**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)