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# CSC 579 – SIMULATION ASSIGNMENT 4

The results obtained for the Down Time obtained from the theoretical calculations have been compared with the values computed through the simulation.
In each case, the operational time is varied from 1 to 50 keeping the mean repair time constant at 5. For each value of the operational time, the down time is obtained.
The graphs for both the theoretical and the simulated version is as shown below

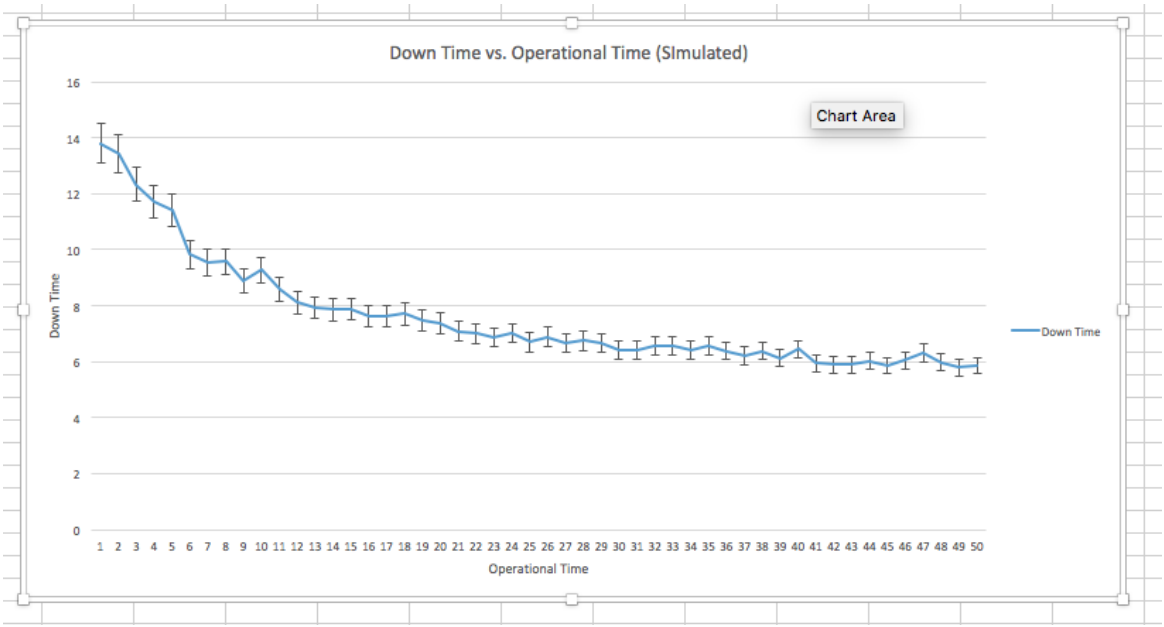


Fig 1 – Down Time vs. Operational Time (Simulated)

The confidence interval for each of the down time values are included in the simulated version.

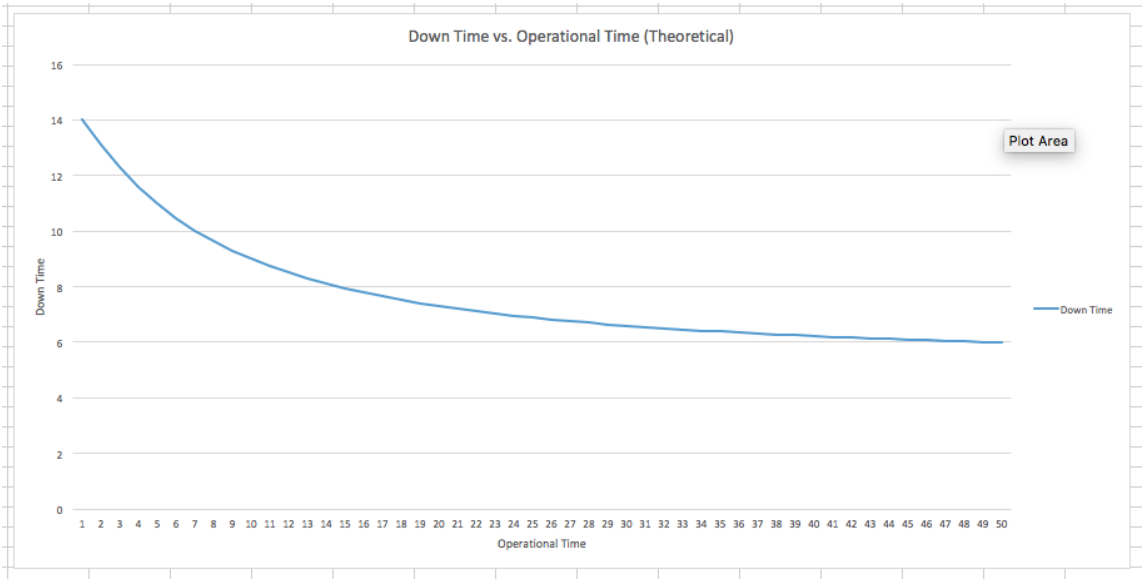


Fig 2 – Down Time vs. Operational Time (Theoretical)

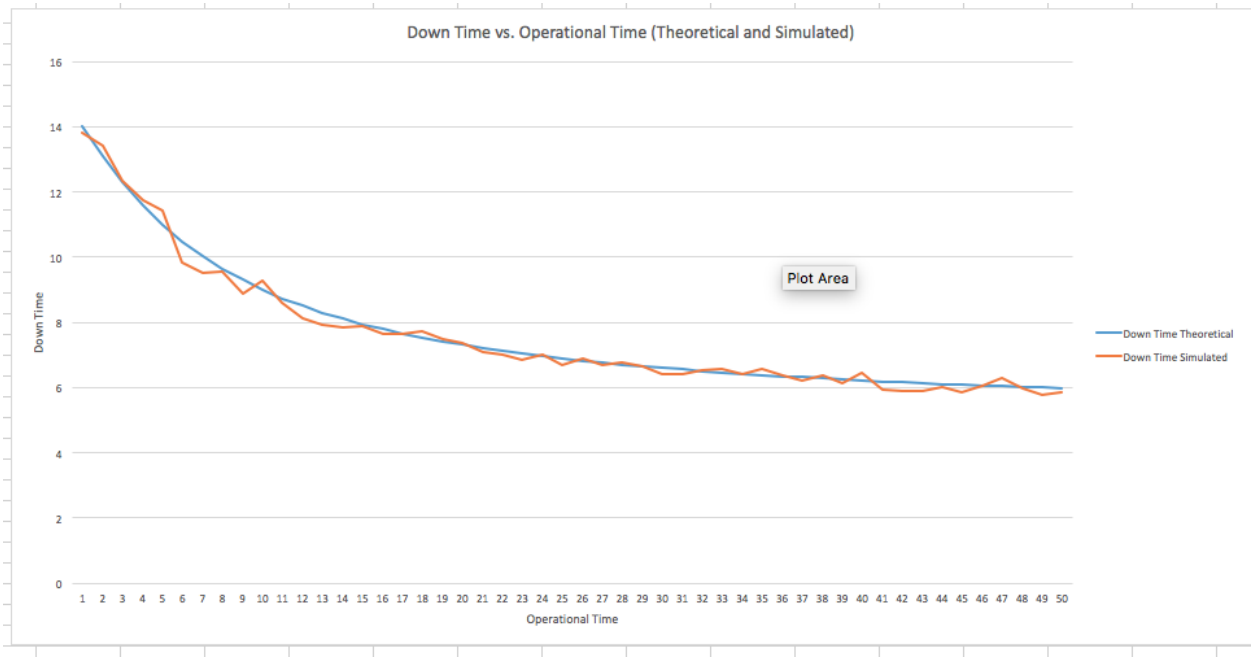


Fig 3 – Overlap of the Theoretical and Simulated Down Times

From the graph shown above it can be seen that the theoretical and the simulated values almost coincide completely. This proves that the simulation procedure is of high accuracy. The high values in the initial stages are due to the fact that the repair time is kept constant at 5.0. However, we can see the down time stabilizing in the neighborhood of 6 as the operational time crosses 30.

In conclusion, it can be seen that the down time of a machine approaches a constant as the operational time is increased. However, it should be noted that the repair time is kept a constant in all the observations,