

SIE 431/531 Simulation modeling and analysis

Problem 1

Step 1: For book example 10-1 we discussed in class, run the simulation for 10 hours. Save the arrival time in an ascii file, "arrivaldata.txt".

Step 2: Run book example 10-2 using "arrivaldata.txt" as input data for arrivals.

Step 3: Compare the average waiting time in the system from the two output reports. Are they the same or not? Explain. (hint: it has something to do with how random numbers are generated).

Problem 2

Change the service time distribution in book example 10-1 and 10-2 into constant. Repeat the three steps in problem 1.

Problem 3

Using Book Example 5-3, find the minimum number of trunk lines needed to keep the percentage of rejected calls below 3%. Compare the total cost incurred with that from the base scenario (i.e. the result from Book Example 5-3). Run the simulation for 100 replications. Discuss the statistical significance of your result. Show the detailed intermediate steps for getting the result in the summary sheet.