Simulation Software Project Requirements

Clarifications

1. Table values:
   a. Number Served means Completed Service
   b. Remaining Customers mean number in Queue + number in Service
   c. Format all values to the same number of decimal points (at least 2).
   d. Numeric values should be right justified, not centered.

2. On ALL parts of the project, state the units being used (seconds, minutes, hours, etc.) in terms of the problem statement.

3. Form of project to be turned in
   a. First page is Report with Title, including Company Name and Your name.
   b. Second is a print-out of your model
   c. Model without channels must have on it the parameters you changed from the default in the drop-down box for each atom
   d. Model with channels is to be labeled if necessary to explain branches, such as % taking each branch. You can insert a text box or write by hand.
   e. Finally, the summary reports. PLEASE copy and paste the reports so that several can be printed on a page, with each report numbered 1, 2, etc. to correspond to the Runs on your table.
   f. NEVER split a single table across 2 pages.

4. Form of Report
   a. Report is to be a document that will “stand alone” and written as a complete report to the client.
   b. Table of results is to be embedded as part of the report, not a separate page.
   c. Outline of Report
      i. Problem Description (as in the textbook) – NOT how you are going to solve or how many runs. What is the scenario and what are the questions or problems that need to be solved.
      ii. Solution Description – What will you be doing? Number of runs. How you will terminate the simulation (time, number of arrivals, etc.) Values to be calculated.
      iii. Discussion of each result. Write a short paragraph for each of the calculated values including the expected, average, maximum & minimum. Consistent does not mean equal. Briefly state if the values were reasonable. E.G. If all values are below the expected for 5 runs, this is probably not reasonable. One way to compare results is to consider the % difference from the expected.
      iv. Conclusion. (Not a repeat of discussion of results.) Answer questions that were posed and base your answer on FACTS – not opinion. E.G. Some reports said something like “The wait in the queue was not too long.” WRONG!! That is totally subjective. Say something like “The average wait time in the queue was 17 minutes. If management of SmallTown Taxi believes this is too long, then a second taxi would be recommended.” OR Some of you said something like, “Taxi 1 averages 90% utilization so no second taxi is needed.” It would be better to say something like, “Taxi 1 averages 90% utilization, without allowing for breaks, lunch, etc. Generally, research will show that about 80% is the maximum utilization for a person to work effectively. Realistically, to handle the current volume of customers effectively, a
second taxi could be justified. This is also supported by the fact that between 1 and 5 customers were left unserved in the 5 simulations. This is business that is being lost by the taxi company." ALL conclusions MUST be justified by facts, NOT your opinion, only. Hopefully, the client will give some guidance, such as, "How many taxis do we need if we want the wait time to be an average of 5 minutes?"

d. Other Report Notes
   i. No individual run is important in itself, so we generally do not refer to any particular run of the simulation. That is, don't say "The maximum number of 21 customers was obtained in Run 3." Say, "The maximum number of customers obtained in a run of the simulation was 21."
   ii. Stick to facts, not speculation. Do not add anything not in the problem description or in the simulation, itself.
   iii. Professional reports should be written objectively. Do not use "I" - EVER!! The use of "we" can be ok. But try to just state the facts. Don't write, "I ran the simulation 5 times." Say, "The simulation was run 5 times."