Discrete & Continuous Modelling • MACM202 • Lab Report for Week #9

- usual lab report format.
- due in the MACM202 box – the due time/date is under consideration.
- be as quantitative & systematic as possible.

Computing Tips

- make sure your W^2 and $n(1-r^2)$ formulas are coded correctly. You may discuss with other groups.
- remove the *rand('state',1234567)* command when you no longer want to reset your random number generator.

Study #1

- page limit: 2 pages typeset + 1-2 pages annotated graphics.
- keywords: *empirical* distribution function, transformed data.
- from your W^2 EDF, make a table of the W^2-values below which you find 25%, 50%, 75% of random samples of 25 (under our exponential distribution with given mean=1). Professor Stephens also recommended the 90% and 95% points, since they are two *industry standard* values for rejection.
- creative additional comments count. How many W^2 values are needed for a smooth EDF? (I've spoiled this one, since addressing this question is no longer a creative idea.)

Study #2

- page limit: 2 pages typeset + 1-2 page annotated graphics.
- keywords: expected value of ordered randoms, correlation coefficient.
- note that the EDF is for $n(1-r^2)$. Otherwise, construct a report that parallels the previous study.

Data Evaluation

- page limit: 1 page with table/chart.
- construct an informative table or chart upon which you should present an evaluation of the 12 data sets of 25 random numbers (in *data.mat*). Determine your ordering of the 12 sets on the basis of the question, "Which of the data sets are least likely to have come from an exponential distribution with mean 1."
- write 1-2 paragraphs discussing your decision. There is no right answer for this ordering, only an *intelligent* answer.