

Assignment # 3 (DUE: WEDNESDAY, FEBRUARY 16, 2000)

SIMULATION PRINCIPLES & LANGUAGES

General principles, Monte Carlo simulation, discrete-event simulation, simulation languages, simulators, emphasis on MODSIM III

Reading #3:

- Read chapters 2, 3 and 4 of the textbook. Also read sections 7.1 and 7.2. You are responsible for *all* the material in these sections in addition to the material provided in class and in the Lab (*except* for 2.2, 4.3, and 4.5). Sections 3.2, 4.2, and 4.4 are suggested reading but optional.

Additional references (strongly suggested): Fishwick: Chapters 1, 2, 4 and 10; Law & Kelton: Chapters 1 and 3; MODSIM III manuals.

Optional reading: Fishwick Chapter 8;

Law & Kelton Chapter 2;

“Simulation Software for Communications Networks: The State of the Art,” A. M. Law and M. G. McComas, IEEE Communications Magazine, vol. 32, 3, page 44, March 1994.

Assignment #3:

- Do problems 2.23(b), 2.27, 3.5, 3.6, 3.7, 4.1, 4.2 (pseudo-code if you prefer, no implementation or running of the code required), 4.3.
- Do problem 4.28 from your textbook (using a *computer*, not manually).

Note 1: You may use MATLAB, C/C++, PASCAL, MODSIM III, or any other language you prefer, unless otherwise instructed in the problem description.

Note 2: If you need a random number generator and your package does not have one, you may use the procedure in example 8.4, p.295 in your textbook. This procedure generates random numbers R_i in the interval between 0 and 2,147,483,647.