EECS 461 Probability and Statistics
Fall Semester 2022
Assignment **#2** Due **13 September 2022**

Reading: Sections 2.1-2.5 in Yates/Goodman

Do all of the Quizzes in the Reading assignment (including Quiz 2.5 on MATLAB), but do *not* hand them in. Answers to the Quizzes are on the book's website (search Yates Goodman Wiley)

For all problems from the book, you should use the method(s) from the corresponding section to solve the problem. For example, you should use a tree diagram (section 2.1) to solve problem 2.1.4.

1. Problem 2.1.4, p. 57.
2. Problem 2.1.6, p. 57.
3. Problem 2.2.6, p. 59.
4. Problem 2.2.12, p. 60.
5. Problem 2.3.2, p. 60. And by the way, the Celtics *DID* win 8 straight beginning in 1959 and *DID* win 10 of 11 starting in 1959! Bill Russell, who recently died, played on all of those teams (plus the 1957 NBA champion Celtics, as a rookie). Wilt Chamberlain played on the 1967 NBA champion Philadelphia 76ers. Boston did not make it to the finals that year.
6. Problem 2.3.4, p. 60. Express your answer in terms of p, which you know to be 0.5 or greater. Apologies for these last 3 problems to those of you who dislike sports.
7. A process has 5 components connected as follows. Component 1 is followed (series) by components 2, 3, and 4 connected in parallel, followed by (series) component 5. Component 1 has reliability 0.99; components 2, 3, and 4 have reliabilities of 0.96, 0.92, and 0.85 (respectively); and component 5 has reliability of 0.95. What is the overall reliability of this process?
8. Problem 2.4.2, p. 61.
9. Problem 2.5.2, p. 61 (Matlab). Provide a printout of your Matlab script.

