
STATISTICS FOR ENGINEERS AND SCIENTISTS
STAT 4073: FALL 2010

Assignment: 1

Due date: September 3, 2010

Practice: Practice problems are *not* assigned to be turned in on the due date, but are rather important for building your skills in statistics. Odd-numbered questions can be found in the back of the text; even-numbered questions may serve as discussion starters when studying with other members of this course.

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Assigned: Assigned problems are the ones I *will* collect on the due date. These problems are intended to summarize the material in the chapter(s).

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Computer Problem:

Computer problems are those problems that utilize the computer and a statistical package of your choice. These are designed to give you a more realistic real-world experience with statistics.

You are in charge of quality control for the production of un-assembled bookcases. For the consumer to make use of your product, the dimensions of the parts must be within certain tolerances; for instance, the length of a positioning tube must be between 11.9 and 12.1 inches. The factory produces 10,000 positioning tubes each shift. Your boss wishes you to estimate the number of tubes produced each shift that have lengths outside acceptable parameters.

To help you, a coworker has measured 50,000 positioning tubes over the past 200 shifts (a random sample of 250 tubes per shift). The data for this is located on the website ([positioningtubes.csv](#)). Use this data to estimate the number of faulty positioning tubes produced by the factory each shift.

Please **type** your answer to the following problem as a memorandum (or a letter) to your boss. Be sure to include a paragraph describing his request, a paragraph outlining your procedure, and a paragraph answering his request.