More Q & A

Questions

30. Integrate exercises with theory, slow down presentation, review calculus.
31. Review correlation.
32. Review calculus for course.
33. Use volume of assignment submission for the remainder of the semester instead of corrected assignments.
34. What use are the R-programs – how do we use them?
35. Clarification of
        i) example of distribution for which spread (i.e. sd) is more important than the location (i.e. mean).
        ii) weigh scale variation – what sort of distribution?
        iii) comparison of lumber strengths for two different milling processes
36. Better organization of web page at www.stat.sfu.ca/~weldon.
37. Understanding simulation, when done using R.
38. Key for symbols used in text, so can understand formulas.
39. Like the format of "About Mean and Variance of Ch 3 models" – would like more like this.
40. Text uses formulas with too few explanatory words.

Answers

30. The reason I give the theory postings is to point out what is important in the text – basically you save you from all the detail in the text. As I have stressed, use the notes as the primary reference and the text as secondary. I can't really slow down the presentation, but you can help to follow the pace if you review the notes regularly, and get clarification, right away, of what you do not understand. I do not intend to review the calculus any more than I have done already. See the worked exercises in the notes and the worked examples in the text.

31. See 5. and 6. on Mondays posting.

32. See 30.

33. Interesting suggestion, but I want to be free to design future assignments to suit my objectives for the course.

34. The R programs are completely outside the course requirements. You do need to understand the graphs that I produce with R, but you don't need to know how R produces them. The programs are provided in case you want to try them out. If you take further courses in statistics, the time using R will be very helpful. But you do not need to do anything with R for this course.

35. i) You want to tell if a diet is helping you lose weight, or not. You need to design a weighing procedure that eliminates irrelevant sources of variation, like the water percentage of your body. In making day-to-day or week-to-week comparisons, the important thing about your weighing procedure is the variability – a very small variability will allow you to detect any change in weight, whereas a large variability might mask the change.   The actual weight is not as important as the change in weight (for judging the diet effect) so the (uncontrolled) variability is of primary importance.

   ii) In the example just described, there are many sources of uncontrolled variation contributing to each measurement – in such cases, the normal distribution is quite common. Each measurement is a bit like an average of many measurements, and the CLT suggests the normal in such cases.

   iii) The discussion of the two group comparison was "foreshadowing" of Ch 9 material. Lets leave details to the later lecture ...

36. Thanks for the suggestion here – I like the organization you suggest and will implement today or tomorrow.

37. It is very important to understand what a simulation is doing. R is just one way to do it. R does not do anything that could not be done, more laboriously, by hand. The graph of the "Law of Averages" where I displayed a graph showing both the absolute excess of heads, and the relative excess of heads, could be produced by tossing a real coin. The results will vary but the R-versions will have the same nature as the real-toss version.

38. The symbols in the text are well-defined – you just have to see where they are introduced first. Also, you need to read the preamble to a formula – learning the formula without the preamble is of little use. Finally, if you use the notes first, then check the text, you may find the formula makes more sense.

39. This is something you can construct yourself. In fact, pulling together the different models and making notes of the essential facts for each model is a useful learning exercise. However, I have included quite a bit of this kind of thing in the notes.

40. More oral Q&A will help with this – the text is already pretty fat with detail – more words might make it harder to find what you want. Not much more I can say in general about this. Talk to me!