

## Writing-Up Practicals

You should always write-up a practical session for your own records. Reports on part or all of four of the practicals will be assessed during the Michaelmas and Hilary Terms, as well as a week-long practical session in Trinity Term.

### Writing a Practical Report

The main thing to bear in mind is that your report should discuss what you learnt about the set of data, *not* what you did. It should contain (not necessarily in this order):

- A brief description of the problem.
- Conclusions of the analysis, in terms that do not refer to computer output (except perhaps figures).
- Enough evidence to support the conclusions. For example, you can say that a normal plot of the residuals showed nothing amiss, but if it did show interesting features you should include it.
- Alternative analyses that were or might have been done.

The report may be hand-written or typeset, but it must be an integrated whole, not full of references to computer output tacked on the end. Present regression equations in the text, give captions to your figures, . . . . Only include R commands where that really is the simplest way to explain what you have done; perhaps by giving a complex model formula.

In writing reports assume that your audience has an M.Sc. in statistics; only explain unusual features of the methodology you use.

Details do matter! Try to ensure that numbers (e.g. regression coefficients) are quoted to sensible accuracies and that important points on plots are labelled in a meaningful way (e.g. not as a number in some subset of the original data), . . . . Do give sufficient details that an expert could reproduce your results (this is often important when assessing a report in determining whether incorrect results are due to a slip or a fundamental misunderstanding: the onus is on you to convince your reader).

Finally, after this year your work is going to be judged almost entirely on oral and written presentations, so those of you unused to writing reports (as most maths graduates are) should see report-writing as one of the skills to master this year.