

Lab 1 — Linear Search

Thoughts about reports — in no particular order

- The royal “We” — some people think this is the way to write science. Some think you should never use “I”. All I am sure of is that you should never use the passive voice.
- Methodology — Methodology should be explained in sufficient detail that a person who knows the field can reproduce the results.
- Black Backgrounds — should never be used in printed work — or any work that might be printed.
- Graphs — if you compare results between two graphs, they should have the exact same Y axis scale.
- Graphs, table and other inclusions in the text — if you do not refer to it in the text, it should not be in the paper. If you do not spend at least several sentences on an explanation, but really want to include it, it should be in an appendix.
- Figures, graphs and tables — people look at these first and last — they are often at least as important as all of the text. (You looked that the graph on this page before reading any of the text.) So make your graphs good. I use gnuplot, but I doubt anyone else in the BiCo does. R makes good figures. Excel is quick, but not great (IMO).
- Figures, graphs and tables. Should be numbered and have a caption For instance

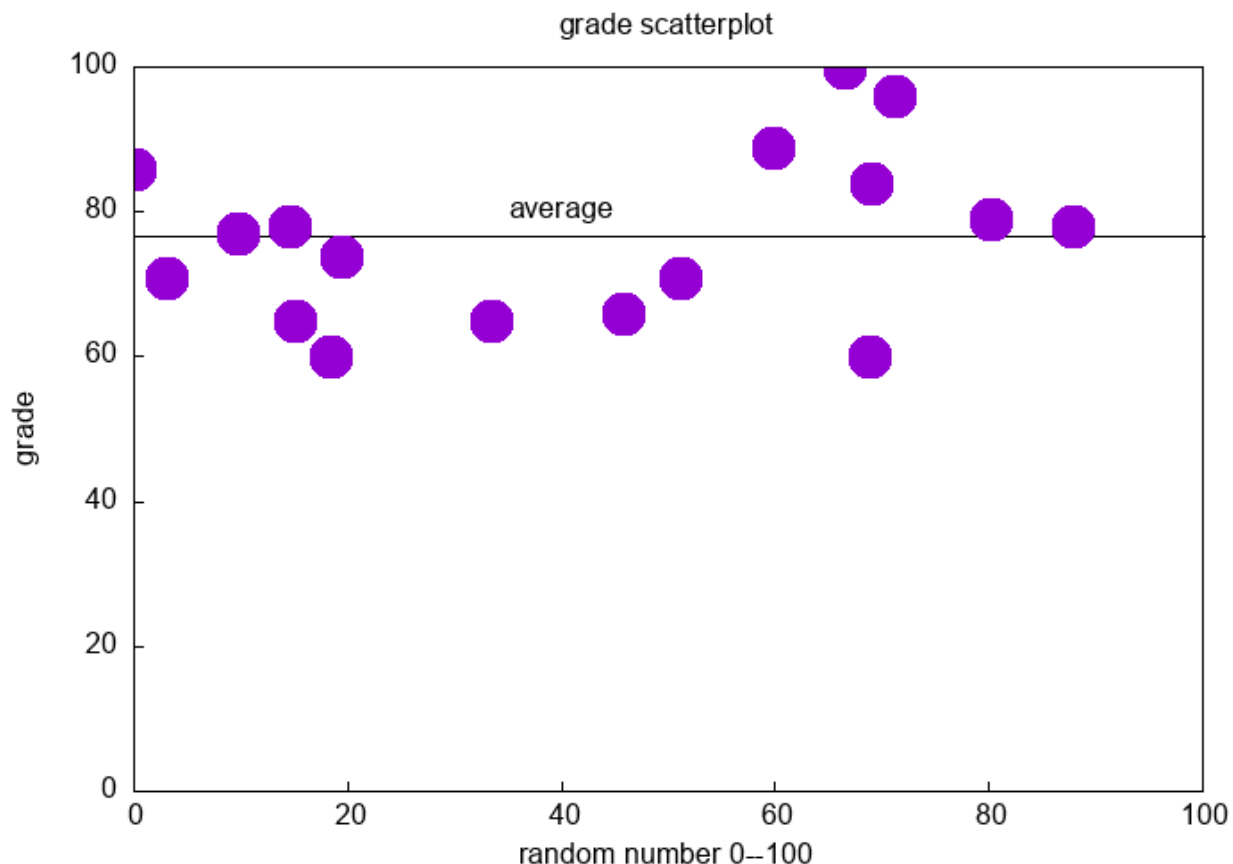


Figure 1: Scatter plot of grades on Lab 1. The X axis is a random number assigned to each student. The random number is used for this graph only.

In the text, always refer to figure by their number. For instance “Figure 1 shows”.

- Figures, Graphs and tables — the caption should contain enough information that a reader can understand the graph without reading anything other than the caption
- The only time an inclusion should not be numbered and have a caption is is brief snippets of text that you explain in the text immediately surrounding the snippet and no where else. For instance, if you are explaining some code and you have 1-4 lines of code.
- Figures and tables — should be as close as possible to the text discussing them People should not have to flip pages to align text and figures.
- Figure and tables — choose them carefully. Do not include a figure just because you have the data. Think carefully about whether the figure supports your narrative.
- Appendices — Should contain more details. For instance in the report, you might have said — after explaining an algorithm — “see appendix A” for my implementation in Java.
- Stick to the point — a couple of people wandered off topic. Don’t.
- References — I much prefer APA style. But if you have strong opinions I will listen (and I will still think you are wrong)
- References — Use them. If you say “Cormen said” then reference it. If you say “According to Towell...” reference it — in APA style this would be “According to Towell (2024) ...”
- References — most of you had none. You should have at least referenced Cormen. You probably should have had a reference about Stack Overflows — and that probably from authoritative documentation about the language you wrote in.
- Coding Language — Is almost never an interesting fact to include in a scientific paper. You should not mention it unless the paper is about a language or you are doing something particular to a language. For instance, explaining that Java does not have tail call optimization would be an appropriate time to mention a language. Also, if you are explicitly comparing results across two languages (as in one of the extra credits).
- Fonts — Use a serifed font, they are easier to read. For instance, this document uses a sans-serif font.
- When expectations are not met — It is OK to say things like “this is outside the scope of this work” Or even better — “we hope to to pursue [this] is future work...” You could even outline, briefly some ways you might pursue. But do not just note that something does not meet expectations and move on as if it was uninteresting.