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# 8 Technical Writing

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## Project work

After hearing the reports on the first project, Tom makes three recommendations.

- Use a version control tool like CVS, SVN, or GoogleDocs.
- Give examples. This clarifies your mind, shows if you are on the right track, and helps the reader in understanding the paper. Ideally, small examples illustrating single definitions should converge into larger ones to explaining the more complex concepts. An examples should illustrate all features, but it should not be complicated.
- Search the literature for related work and discuss it in your paper. Avoid redoing work that has already been done, build on it.

The tasks for the second project are divided. Each team will calculate the  $h$ -number of groups of a different kind:

- computer-science departments in the USA ( $N + 1$ );
- computer-science departments in Europe (Backbenchers);
- universities, across all fields (Scribollards);
- computer-science conferences (Indoor).

Tom estimates that the greatest hurdle will be to clean up the data. In particular, it would be interesting to see how  $h$ -numbers change when self-citations are excluded.

## Technical Writing

We discuss elementary rules of good writing following two classical texts from the handout – a report by Knuth, Larrabee, and Roberts titled *Mathematical Writing* and a chapter of *The Elements of Style* by Strunk and White, a must-read (online at <http://www.bartleby.com/141>).

- Choose a suitable design and hold on to it.
- Make the paragraph the unit of composition.

- Paragraphs can be very short (even one sentence);
  - It should always be clear what a paragraph is about.
- Use active voice:
  - Passive voice is more difficult to read;
  - Do not use “I”, use “we” (author and reader).
- Put statements in positive form.
- Use definite, specific, concrete language.
- Omit needless words.
- Express similar things in similar form.
- Keep related words together.
- Keep to one tense.
- Form:
  - Avoid colloquialism.
  - Sparingly use “!” (also a good rule for writing e-mails).
  - Pay attention to hyphens, quotation marks, commas.
  - Numbers from one to ten must be spelled out.
- Citations:
  - Be consistent !!! (Here, the exclamation marks are justified.)
  - Write names of books in italics (if used properly,  $\text{\LaTeX}$  does it right).