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Discussion on 15.10.2025
Homework due on 22.10.2025 at 16:00

Possible solution for Exercise Sheet 1 in

Scientific and Technical English for Computer Scientists

The exercise sheets consist of in-class exercises and homework. The in-class exercises take place in the second half of the lecture time slots. The homework, which is optional and ungraded, can be submitted via the "Homework" section in Moodle. The homework is subject to peer review.

Unless indicated otherwise, generative artificial intelligence assistants such as ChatGPT may be used, as long as you acknowledge how you use them as specified by the Institute's policy on plagiarism.[1] However, you may not use such tools to generate peer reviews for you. In addition, we strongly recommend that you do not use them to generate entire solutions, since this would defeat the purpose of the exercises.

In-class exercise 1-1 ***Abstract Abstracts*** Among the documents available in the "Materials" section in Moodle, you will find these three papers:

1. Donald E. Knuth and Peter B. Bendix, "Simple Word Problems in Universal Algebras," *Computational Problems in Abstract Algebra*, pp. 263–297, Pergamon Press, 1970.

2. Susan Owicki and Leslie Lamport, "Proving Liveness Properties of Concurrent Programs," *ACM Transactions on Programming Languages and Systems* 4(3), pp. 455–495, 1982.

3. Alejandro Russo, "Functional Pearl: Two Can Keep a Secret, If One of Them Uses Haskell," *ACM SIGPLAN Notices* 50(9), pp. 280–288, 2015.

The last reference claims to be a "functional pearl": a concise, elegant example of functional programming. Carefully read the *abstracts* of all three papers, then answer the following questions, referring back to the abstracts if necessary.

a) Which abstract did you like best? Why?

[1] `https://www.medien.ifi.lmu.de/lehre/Plagiate-IfI.pdf`

POSSIBLE SOLUTION:

There are no wrong answers here. The goal of this exercise is to observe your own preferences in an abstract: Do you prefer short or long sentences? Do you prefer a high-level or a detail-oriented approach? Do you take issue with the passive voice? Your preferences might not always align with the requirements of the publication or with the preferences of your coauthors. Questions like these are good to think about.

b) Which school of writing does each of the abstracts belong to?

POSSIBLE SOLUTION:

The last paper belongs to the plain English school. By contrast, neither of the other two fits exactly in either school. While both mostly align with the plain English school, there are some characteristics of the "academic" school as well, for example:

- Both papers use the passive voice. They are also from the 1970s or 1980s, when the passive voice was more common.
- Owicki and Lamport use more general and abstract terms, and give no concrete examples.
- Knuth and Bendix use longer sentences than the other two (with 19.5 words per sentence, compared with 13.3 and 15.0 for the other two).

c) Point out three differences you noticed in how the abstracts are written.

POSSIBLE SOLUTION:

- Russo defines several unnecessary abbreviations in the abstract; the other two do not.
- Knuth and Bendix give a concrete example for what their algorithm achieves for a certain set of inputs. The other two describe their contributions in more abstract terms.
- Knuth and Bendix as well as Russo use italics for emphasis; Owicki and Lamport do not.

d) Choose one of the three abstracts, and write a brief review of it. Your review should be about 100 words. In your text, point out at least one aspect you like and at least one aspect you would change.

POSSIBLE SOLUTION:

Russo's abstract is written clearly and concisely, and uses terminology that is widely understood by computer scientists. It clearly highlights the contributions of the paper—a Haskell library for protecting confidentiality of data, and a way to extend this library with more primitives. "For several decades, researchers have worked on this" is arguably a cliché, and there might be a way to craft a more engaging opening, especially because this style of opening means that the first 11 words (8%) tell the reader nothing about what the paper is actually about, just that it is very important.