

Einführung in die Pragmatik und Diskurs

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Homework 6: Pronominal Anaphora Resolution Due on Tue 30.5.2006

When handing in your homework, please obey the general instructions, see <http://www.coli.uni-saarland.de/courses/pd/page.php?id=exercises>

Task 1

Resolve the anaphoric pronouns (underlined) in the text below according to

- i. Hobbs' syntactic-tree search algorithm [2];
- ii. Brennan et al.'s Centering-based approach [1];
- iii. Lappin and Leass' heuristic approach [4]

For simplicity, please base your analysis on the overviews of the three algorithms in [3][Chapter 18], not on the original papers.

As the solution, please submit the calculations according to the respective algorithms. Make notes about the difficulties you encounter (we shall discuss them in the exercise session).

Text adapted from ADAC Reisemagazin

- (1) Cindy ist strohblond.
- (2) Ihr Fell schimmert in der Sonne.
- (3) Als Jeanette auf den Hof tritt,
- (4) hebt sie den Kopf.
- (5) Sie blinzelt ihr von dem Stalltür aus zu.

Task 2 (optional)

This task is optional. For each part fulfilled, it will yield up to 2 bonus points (so, a maximum of 6 in total), independently of the fulfillment of Task 1.

Implement any (or all) of the three algorithms.

You can use a programming language of your choice. To hand in your homework, send me commented code along with a brief description, and a set of test examples: input-output. As test examples, you can use examples from the book, from the lecture and the above example from Task 1.

If I cannot run the program myself, I will want to see a brief demonstration –we shall arrange an appointment for that.

Literatur

- [1] Susan E. Brennan, Marilyn Walker Friedman, and Carl J. Pollard. A centering approach to pronouns. In *Proceedings of the 25th annual meeting of the ACL*, pages 155–162, Stanford, CA, 1987. url.
- [2] Jerry R. Hobbs. Resolving pronoun references. *Lingua*, 44:311–338, 1978. Reprinted as [?].
- [3] Daniel Jurafsky and James H. Martin. *Speech and language processing: An Introduction to Natural Language Processing, Computational Linguistics, and Speech Recognition*. Prentice Hall Series in Artificial Intelligence. Prentice Hall, 2000. url.
- [4] Shalom Lappin and Herbert J. Leass. An algorithm for pronominal anaphora resolution. *Computational Linguistics*, 20(4), 1994. url.