Exercises on TAG, CG and DG

04.10.2017

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1 Categorial Grammar

1. Jonh left

2. Jonh knows Mary

3. I will leave Boston in the morning

4. Everybody likes Boston

5. A student likes Boston

6. John read a book

7. John gave Mary a red shirt

8. A student read a book

9. John saw a man with a telescope

10. The woman saw a man last Thursday

11. Mary knows old men and women

(b) Write a CG that recognizes the sentences above and build the prove of their grammaticality.

Use the CCG online parser to test some sentences `http://4.easy-ccg.appspot.com/do_parse?sentence=Fruit+flies+like+a+banana&nbest=5`. Note the different notation and find the mistakes of the parser!

2 Tree Adjoining Grammar

Built a TAG able to recognize the sentences above and buil the TAG trees for sentences: 2, 3 and 10.

3 Dependency Grammar

Universal Dependencies `http://universaldependencies.org/u/dep/all.html`

Build DG derivations of the sentences 7-11 in Ex. 1. Check them with the Stanford DG parser `http://nlp.stanford.edu:8080/parser/index.jsp`.

4 Constituency vs dependency structures

Try to assign a dependency vs. constitute structure to the stencences below. You can then verify your results at the Prague DG page (`http://ufal.mff.cuni.cz/pedt2.0/`).

- Pierre Vinken, 61 years old, will join the board as a nonexecutive director Nov. 29.
- Mr. Vinken is chairman of Elsevier N.V., the Dutch publishing group.
- Rolls-Royce Motor Cars Inc. said it expects its U.S. sales to remain steady at about 1,200 cars in 1990.