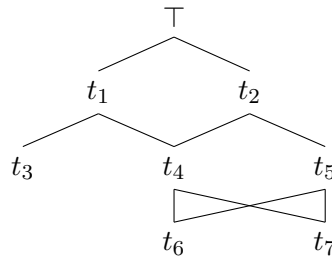


Grammar Engineering: Getting Started with LKB

07.05.2012

1. Please perform the unification operations on typed typed feature structures using the given type hierarchy. If necessary, please also specify the GLB types.



(a)

$$\begin{array}{c} \left[\begin{array}{c} F_1 \quad \boxed{1} \quad t_3 \\ F_2 \quad \left[\begin{array}{c} G_1 \quad t_2 \\ G_2 \quad \boxed{1} \end{array} \right] \end{array} \right] \\ t_1 \quad t_5 \end{array} \cup \begin{array}{c} \left[\begin{array}{c} F_2 \quad \boxed{1} \\ F_3 \quad \boxed{1} \quad \left[\begin{array}{c} G_1 \quad t_2 \\ G_3 \quad t_1 \end{array} \right] \end{array} \right] \\ t_1 \quad t_3 \end{array}$$

(b)

$$\begin{array}{c} \left[\begin{array}{c} F_1 \quad \boxed{1} \\ F_2 \quad \left[\begin{array}{c} G_1 \quad \boxed{1} \end{array} \right] \end{array} \right] \\ t_1 \quad t_4 \end{array} \cup \begin{array}{c} \left[\begin{array}{c} F_1 \quad \left[\begin{array}{c} G_1 \quad \boxed{1} \end{array} \right] \\ F_3 \quad \boxed{1} \end{array} \right] \\ t_3 \quad t_5 \end{array}$$

(c)

$$\begin{array}{c} \left[\begin{array}{c} F_1 \quad \boxed{1} \quad t_4 \\ F_2 \quad \boxed{1} \end{array} \right] \\ t_1 \end{array} \cup \begin{array}{c} \left[\begin{array}{c} F_2 \quad \boxed{1} \quad t_5 \\ F_3 \quad \boxed{1} \end{array} \right] \\ t_2 \end{array}$$

2. LKB setup

- If you decide to run LKB on your own personal computer with Linux, go download the automatic installation script from <http://lingo.stanford.edu/ftp/etc/install> and follow the instructions of the script.
- If you decide to use the centralized setup, please follow the instructions online at <http://www.coli.uni-saarland.de/~yzhang/ge/>

3. Download *grammar01* from <http://http://www.coli.uni-saarland.de/~yzhang/ge-ss12/grammar/grammar01.tgz> .

Start up LKB and load the grammar. Navigate through the type hierarchy and feature structures to get familiar with the user interface.

4. Add a lexical entry to *grammar01*:

Open file *lexicon.tdl*. Try to add a lexical entry for verb *sleeps*.

After saving your modifications, try to reload your grammar check for errors. When the grammar is loaded successfully, try to parse sentences like: “*the cat sleeps*”.