

# Übungsblatt 9

1. (6 Punkte)

Benenne die Paare von Attribut-Wert-Matrizen, für die die Subsumtionsrelation gilt:  
 (Grundlage sind die Typhierarchie und Angemessenheitsbedingungen aus der Vorlesung)

$$A_1 = \begin{array}{c} \left[ \begin{array}{cc} \text{KAT} & n \\ \text{KGR} & \left[ \begin{array}{cc} \text{NUM} & pl \\ \text{GEN} & fem \\ \text{KAS} & nom \end{array} \right] \end{array} \right] \\ \text{wort} \quad \text{kongruenz}$$

$$A_2 = \begin{array}{c} \left[ \begin{array}{cc} \text{KAT} & lex-kat \\ \text{KGR} & \left[ \begin{array}{cc} \text{NUM} & pl \\ \text{GEN} & genus \\ \text{KAS} & nom \end{array} \right] \end{array} \right] \\ \text{wort} \quad \text{kongruenz}$$

$$A_3 = \begin{array}{c} \left[ \begin{array}{cc} \text{KAT} & ph-kat \\ \text{KGR} & \left[ \begin{array}{cc} \text{NUM} & pl \\ \text{GEN} & genus \\ \text{KAS} & kasus \end{array} \right] \end{array} \right] \\ \text{phrase} \quad \text{kongruenz}$$

$$A_4 = \begin{array}{c} \left[ \begin{array}{cc} \text{KAT} & kategorie \\ \text{KGR} & \left[ \begin{array}{cc} \text{NUM} & pl \\ \text{GEN} & mask \end{array} \right] \end{array} \right] \\ \text{zeichen} \quad \text{kongruenz}$$

$$A_5 = \begin{array}{c} \left[ \begin{array}{cc} \text{KAT} & lex-kat \\ \text{KGR} & \left[ \begin{array}{cc} \text{NUM} & pl \\ \text{GEN} & fem \\ \text{KAS} & nom \end{array} \right] \end{array} \right] \\ \text{verb} \quad \text{kongruenz}$$

$$A_6 = \begin{array}{c} \left[ \begin{array}{cc} \text{KAT} & np \\ \text{KGR} & \left[ \begin{array}{cc} \text{NUM} & pl \\ \text{GEN} & fem \\ \text{KAS} & nom \end{array} \right] \end{array} \right] \\ \text{nominal-phrase} \quad \text{kongruenz}$$

2. (12 Punkte)

Unifiziere alle Paare von AWMn.

$$A_1 = \left[ \begin{array}{l} \text{KAT} \quad np \\ \text{KGR} \quad \boxed{1} \quad \left[ \begin{array}{l} \text{NUM} \quad sg \\ \text{GEN} \quad \neg fem \\ \text{KAS} \quad dat \end{array} \right] \\ \quad \quad \quad \text{kongruenz} \\ \text{DTR1} \quad \left[ \begin{array}{l} \text{KAT} \quad det \\ \text{KGR} \quad \boxed{1} \end{array} \right] \\ \quad \quad \quad \text{determinierer} \\ \text{DTR2} \quad \left[ \begin{array}{l} \text{KAT} \quad n \\ \text{KGR} \quad \boxed{1} \end{array} \right] \\ \text{nominal-phrase} \quad \quad \quad \text{nomen} \end{array} \right]$$

$$A_2 = \left[ \begin{array}{l} \text{KAT} \quad \text{kategorie} \\ \text{KGR} \quad \left[ \begin{array}{l} \text{NUM} \quad numerus \\ \text{GEN} \quad mask \\ \text{KAS} \quad \neg akk \end{array} \right] \\ \text{zeichen} \quad \quad \quad \text{kongruenz} \end{array} \right]$$

$$A_3 = \left[ \begin{array}{l} \text{KGR} \quad \left[ \begin{array}{l} \text{NUM} \quad sg \end{array} \right] \\ \text{wort} \quad \quad \quad \text{kongruenz} \end{array} \right]$$

$$A_4 = \left[ \begin{array}{l} \text{KAT} \quad \text{ph-kat} \\ \text{KGR} \quad \left[ \begin{array}{l} \text{GEN} \quad mask \vee fem \\ \text{KAS} \quad kasus \end{array} \right] \\ \text{phrase} \quad \quad \quad \text{kongruenz} \end{array} \right]$$

3. (18 Punkte)

(a) Schreibe die Listen in AWM-Notation um:

$$A_1 = \left[ \begin{array}{l} \text{F} \quad d \\ \text{G} \quad \left[ \begin{array}{l} \text{Y} \quad \langle j, k, l, m \rangle \end{array} \right] \\ \text{typ1} \quad \quad \quad \text{typ2} \end{array} \right]$$



$$A_2 = \left[ \begin{array}{c} \text{W} \\ \text{A} \end{array} \right]_{\text{typ1}} \left[ \begin{array}{c} \text{FIRST} \\ \text{REST} \end{array} \right]_{\text{nelist}} \left[ \begin{array}{c} \text{H} \\ \text{REST} \end{array} \right]_{\text{nelist}} \left[ \begin{array}{c} \text{FIRST} \quad u \\ \text{REST} \quad \left[ \begin{array}{c} \text{FIRST} \quad x \\ \text{REST} \quad \text{elist} \end{array} \right] \end{array} \right]_{\text{nelist}} \left[ \begin{array}{c} \text{FIRST} \quad f \\ \text{REST} \quad \left[ \begin{array}{c} \text{FIRST} \quad s \\ \text{REST} \quad \left[ \begin{array}{c} \text{FIRST} \quad t \\ \text{REST} \quad \text{elist} \end{array} \right] \end{array} \right] \end{array} \right]_{\text{nelist}} \left[ \begin{array}{c} \text{FIRST} \quad q \\ \text{REST} \quad \text{elist} \end{array} \right]_{\text{nelist}}$$

$$A_3 = \left[ \begin{array}{c} \text{E} \end{array} \right]_{\text{typ1}} \left[ \begin{array}{c} \text{FIRST} \\ \text{REST} \end{array} \right]_{\text{nelist}} \left[ \begin{array}{c} \text{V} \quad d \\ \text{FIRST} \\ \text{REST} \end{array} \right]_{\text{nelist}} \left[ \begin{array}{c} \text{FIRST} \quad s \\ \text{REST} \quad \left[ \begin{array}{c} \text{FIRST} \quad t \\ \text{REST} \quad \text{elist} \end{array} \right] \end{array} \right]_{\text{nelist}} \left[ \begin{array}{c} \text{FIRST} \\ \text{REST} \end{array} \right]_{\text{nelist}} \left[ \begin{array}{c} \text{X} \quad a \\ \text{Y} \quad b \end{array} \right]_{\text{typ3}} \left[ \begin{array}{c} \text{FIRST} \quad g \\ \text{REST} \quad \text{elist} \end{array} \right]_{\text{nelist}}$$

$$A_4 = \left[ \begin{array}{c} \text{SUBCAT} \\ \text{verb} \end{array} \right]_{\text{verb}} \left[ \begin{array}{c} \text{KAT} \\ \text{FIRST} \\ \text{REST} \end{array} \right]_{\text{nelist}} \left[ \begin{array}{c} v \\ \text{FIRST} \\ \text{REST} \end{array} \right]_{\text{nelist}} \left[ \begin{array}{c} \text{KAT} \quad np \\ \text{KGR} \quad \text{kongruenz} \quad \left[ \begin{array}{c} \text{KAS} \quad \text{akk} \end{array} \right] \end{array} \right]_{\text{nominal-phrase}} \left[ \begin{array}{c} \text{KAT} \quad np \\ \text{KGR} \quad \left[ \begin{array}{c} \text{NUM} \quad \text{sg} \\ \text{KASUS} \quad \text{nom} \end{array} \right] \\ \text{REST} \quad \text{elist} \end{array} \right]_{\text{nominal-phrase}}$$