Ling 566
Oct 17, 2019
Review
Overview

• Homework tips
• Common mistakes
• Analogies to other systems you might know
• Open questions
Homework tips/requests

• Type whenever possible
  • (no photos of whiteboards)

• Answer each part of each question separately

• Be sure to answer each part of each question, and follow the directions!

• Look over the problems early and ask questions

• Check your work

• Monitor Canvas discussions

• WORK TOGETHER
Which grammar does this tree go with?

```
NP
  D   NOM
    the  
    N
    cat
```
What’s wrong with this?

\[
\left\langle \text{out,} \right\rangle \\
\begin{bmatrix}
\text{word} \\
\text{HEAD} \\
\text{prep} \\
\text{VAL} \\
\text{SPR} \\
\text{COMPS} \\
\end{bmatrix} \\
\left. \left\langle \text{VP} \right\rangle \right| \left. \left( \text{PP} \mid \text{NP} \right) \right] 
\]
What’s wrong with this?

\[
\langle \text{out}, \begin{bmatrix}
\text{word} \\
\text{HEAD} \\
\text{VAL}
\end{bmatrix}
\begin{array}{c}
\text{prep} \\
\text{SPR} \\
\text{COMPS}
\end{array}
\begin{bmatrix}
\langle \rangle \\
\langle (\text{NP}) (\text{PP}) \rangle
\end{bmatrix}\rangle
\]
What’s wrong with this?

\[
\left\langle \text{out,} \right\rangle \begin{bmatrix}
\text{word} \\
\text{HEAD} \\
\text{prep} \\
\text{VAL} \\
\text{SPR} \\
\text{COMPS} \\
\end{bmatrix}\begin{bmatrix}
\text{\()} \\
\text{NP} \\
\text{PP} \\
\text{\)} \\
\end{bmatrix}
\]
What’s wrong with this?

\[\langle \text{grew,} \rangle \begin{bmatrix} \text{word} \\ \text{HEAD} \\ \text{VAL} \end{bmatrix} \begin{bmatrix} \text{verb} \\ \text{AGR} \quad 3\text{sing} \\ \text{SPR} \\ \text{COMPS} \quad \langle \text{NP} \rangle \quad \langle \text{AP} \rangle \end{bmatrix} \]
What’s wrong with this?

\[
\langle \text{out}, \begin{bmatrix}
\text{word} \\
\text{HEAD} \\
\text{preposition} \\
\text{VAL} \\
\text{COMPS}
\end{bmatrix}
\begin{bmatrix}
\text{SPR} & \langle \rangle \\
\text{COMPS} & \langle ( \text{NP} \mid \text{PP} ) \rangle
\end{bmatrix}\rangle
\]
What’s wrong with this?

\[ \langle \text{there,} \begin{bmatrix} \text{phrase} \\ \text{HEAD} \\ \text{VAL} \end{bmatrix} \begin{bmatrix} \text{prep} \\ \text{SPR} \\ \text{COMPS} \end{bmatrix} \rangle \]
Tags & lists

• What’s the difference between these two?

\[
\begin{align*}
\text{SPR} & \langle \text{1NP} \rangle \\
\text{SPR} & \langle \text{[1NP]} \rangle
\end{align*}
\]

• When does it matter?
What’s wrong with this tree?

```
NP
  D
  | the
  | NOM
  | N
  | [COMPS ⟨  ⟩]
  | PP
  | photos
  | PP
   [of the suspect]
```

What's wrong with this tree?
What’s wrong with this tree?

What's wrong with this tree?
What’s wrong with this tree?

I rely on Kim.

What’s wrong with this tree?
What’s wrong with this tree?

What's wrong with this tree?
What’s wrong with this tree?

I rely on Kim

What's wrong with this tree?
What’s wrong with this tree?

I rely on Kim.

What's wrong with this tree?
What’s wrong with this?
And this?

SYN

VAL

COMPS

INDEX

MODE

SEM

hundred ,

[HEAD number]

[SPR ⟨[HEAD number]⟩]

[i]

[rel]

RESTR

[RELN times k]

[RELN plus]

[result]

[RELN constant]

[inst]

[factor1]

[factor2]

[term1]

[term2]

[VALUE 100]
How about this?

SYN

[HEAD number]

VAL

SPR 〈[HEAD number]〉

COMPS 〈[HEAD number]〉

INDEX m

MODE ref

SEM

[RELN times]

RESULT k

FACTOR1 l

FACTOR2 m

RESTR 〈[RELN plus]

RESULT i

TERM1 j

TERM2 k

[RELN constant]

INST m

VALUE 100

‹hundred ,
Better version

< hundred, 

< hundred, 

SYN

VAL

COMPS

INDEX

MODE

SEM

RESTR

[HEAD number]

[HEAD number]

[HEAD number]

[HEAD number]

[HEAD number]

[HEAD number]

[HEAD number]

[HEAD number]

[i]

[TERM1 j]

[TERM2 k]

[RELN times]

[RELN plus]

[RESULT k]

[RESULT i]

[FACTOR1 l]

[FACTOR2 m]

[INST m]

[VALUE 100]

[RELN constant]
SPR value on AP/PP?

- Kim grew fond of baseball.
- Kim and Sandy ate lunch in the park.
- Kim and Sandy are in the park.
Type hierarchy analogies

• How is this formalism like OOP?
• How is it different?
• How is the type hierarchy like an ontology?
• How is it different?
• How is this formalism like the MP’s formalism?
• How is it different?
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