# Introduction to Formal Linguistics - Homework 1

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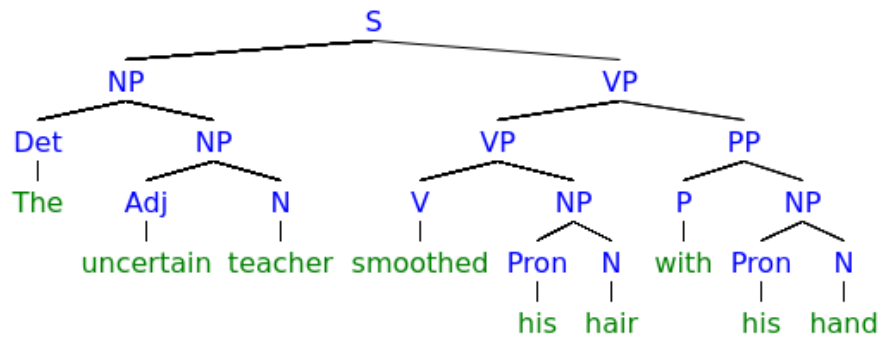
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## 1

**1a.**



Figure 1: *The uncertain teacher smoothed his hair with his hand* constituency tree

A confident man washed his shirt in his sink.
The strange chef served her food on his hat.

**1b.**

$$S \rightarrow NP\ VP$$
$$NP \rightarrow Det\ NP\ |\ Adj\ N\ |\ Pron\ N$$
$$VP \rightarrow VP\ PP\ |\ V\ NP$$
$$PP \rightarrow P\ NP$$
$$Det \rightarrow the$$
$$Adj \rightarrow uncertain$$
$$N \rightarrow teacher\ |\ hair\ |\ hand$$
$$Pron \rightarrow his$$
$$V \rightarrow smoothed$$
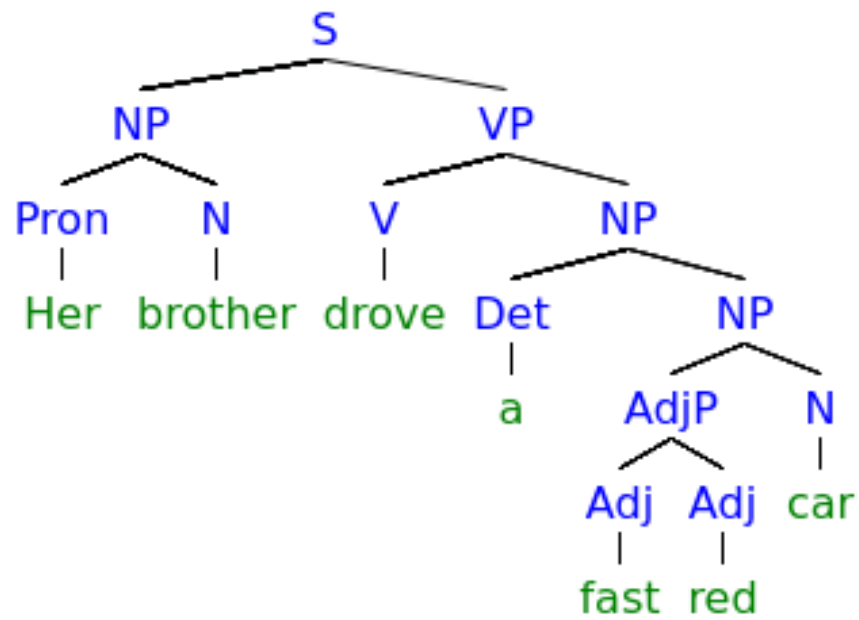$$P \rightarrow with$$

# 2

**2a.**

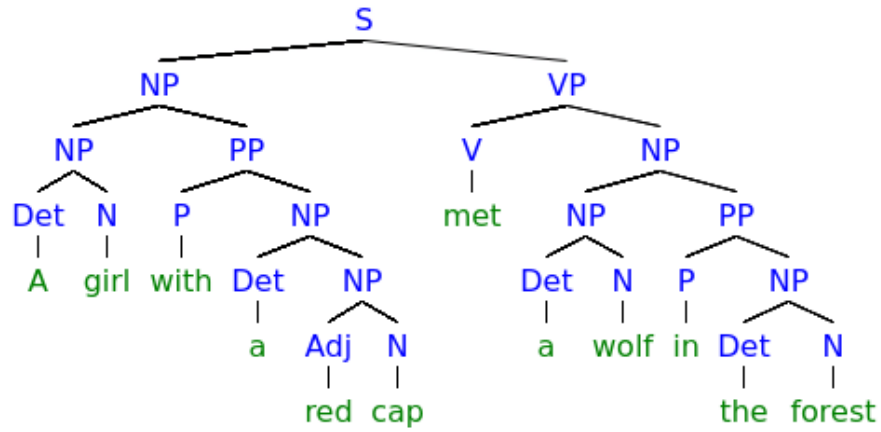Figure 2: *Her brother drove a fast red car* constituency tree

Figure 3: *A girl with a red cap met a wolf in the forest* constituency tree

Labels used are S - Sentence; NP - Noun Phrase; VP - Verb Phrase; Pron - Pronoun; N - Noun; V - Verb; Det - Determiner; AdjP - Adjectival Phrase; Adj - Adjective; P - Preposition
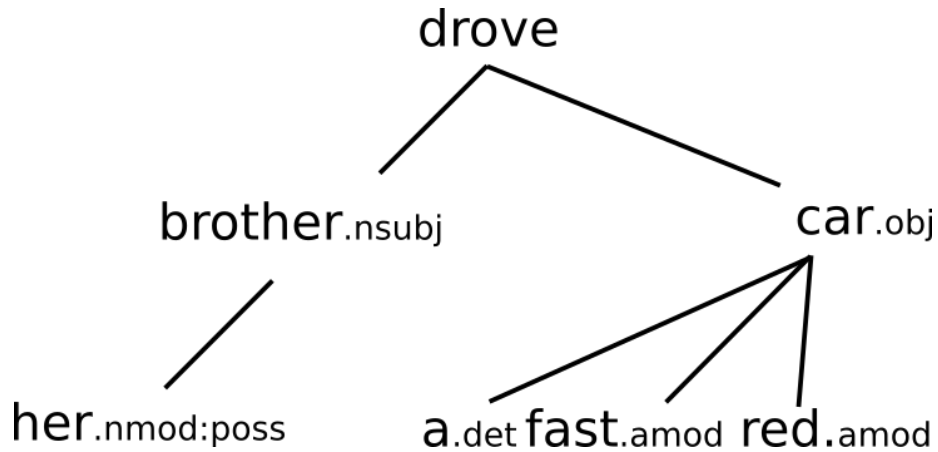
**2b.**



Figure 4: *Her brother drove a fast red car* dependency tree

Syntactic functions are as used in Universal Dependencies v2.
nsubj - nominal subject; obj - direct object; nmod - noun as an additional argument; nmod:poss - possessive pronoun; det - determiner; amod - adjectival modifier; case - preposition;
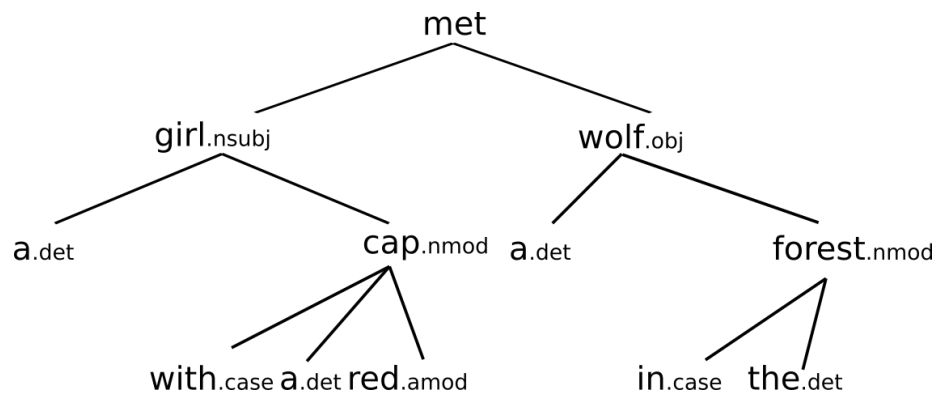
Figure 5: *A girl with a red cap met a wolf in the forest* dependency tree