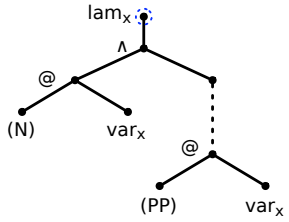
1 Semantics Construction

Derive a dominance graph that describes the five readings of the following sentence:

(1) [S [NP [Det Every] [N' [N student] [PP [P at] [NP [Det a] [N university]]]]] [VP [V presents] [NP [Det a] [N paper]]]].

The lexicon entry for the words "at" and "presents" are dominance graphs consisting of a single node with labels at^* and $\mathit{present}^*$, respectively; at^* and $\mathit{present}^*$ are (correspond to) constants of type $\langle e, \langle e, t\rangle\rangle$. The semantic construction rule for PP $\rightarrow$ P NP introduces an application, in the same way as the rules for sentences and verb phrases from the lecture. The rule for N' $\rightarrow$ N PP looks as follows:



Assign a number to each node in the syntax tree, and mark the interface node that belongs to each syntxicon entry for the words ?at? and ?presents? are dominance graphs consisting of a single node withlabelsat? andpresent? ,respectively; ax node with its number.

2 Solved Form(s)

In total, the graph you constructed in Ex. 1 should have 5 distinct solved forms. Find (at least) two solved forms of the graph and give the corresponding formulae the solved forms stand for.

3 Negation

Consider the two readings of the sentence "every student did not pay attention."

(a) $\neg\forall x(\text{stud}'(x) \rightarrow \text{pay-attention}'(x))$

(b) $\forall x(\text{stud}'(x) \rightarrow \neg\text{pay-attention}'(x))$

Represent the two readings as trees, and specify a dominance graph that describes the two readings, i.e. a dominance graph that has two solved forms which correspond to the two readings above.

Note: It is not necessary to explicitly construct the graph using the semantics construction rules.

To be turned in by Tuesday, May 27, 10:15