1 Assignment Modification

Recall that for any assignment a, $a[i \to c]$ (for any $i \in \mathbb{N}$ and $c \in D_e$) is the assignment that can only be different from a in that $a[i \to c]$ maps i to c. Formally:

- $a[i \to c](i) = c$ and;
- $a[i \to c](j) = a(j)$ for each $j \in \mathbb{N}$ different from i.

Here, a itself may be a modified assignment, as in $g[1 \to \text{John}][2 \to \text{Moscow}]$, where $a = g[1 \to \text{John}]$.

Take the assignment $b\colon \mathbb{N} \to D_e$. To simplify, we only represent 1, 2 and 3.

$$b = \begin{bmatrix} 1 & \to & \text{Sue} \\ 2 & \to & \text{Bob} \\ 3 & \to & \text{London} \end{bmatrix}$$

The modified assignment $b[1 \to \text{John}]$ looks like:

$$b[1 \to \text{John}] = \begin{bmatrix} 1 & \to & \text{John} \\ 2 & \to & \text{Bob} \\ 3 & \to & \text{London} \end{bmatrix}$$

For the same assignment b, represent the following modified assignments in the same format.

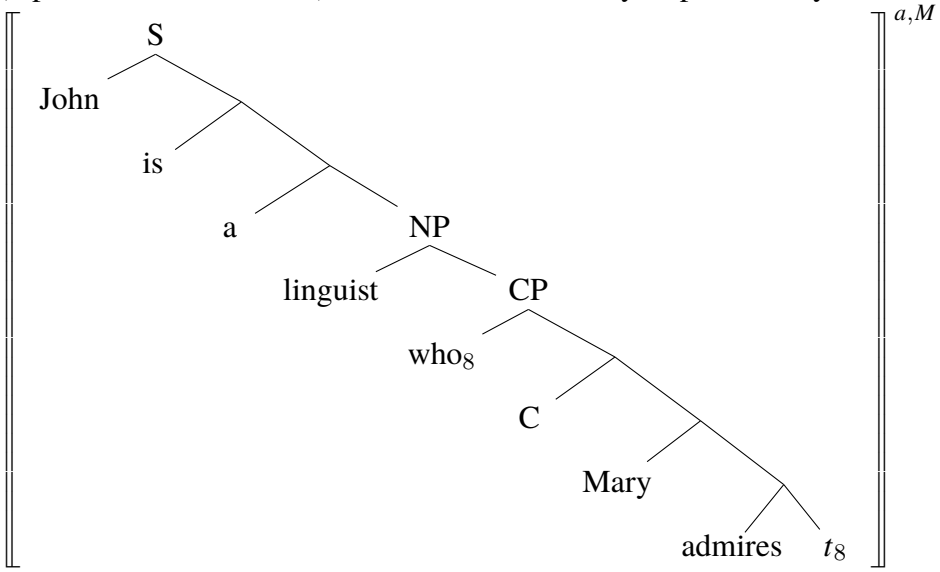
i) $b[2 \to \text{Bob}] =$

ii) $b[1 \to \text{John}][3 \to \text{Berlin}][2 \to \text{Mary}] =$

iii) $b[3 \to \text{Paris}][3 \to \text{Moscow}] =$

2 Relative Clause and Predicate Abstraction

Compute the denotation of the following sentence relative to assignment a and model M (top-down recommended). Please do not omit any step. You may use the bracket notation.



Some lexical entries: for any assignment b,

$[\![\text{John}]\!]^{b,M} = j$ $[\![\text{Mary}]\!]^{b,M} = m$ $[\![\text{linguist}]\!]^{b,M} = [\lambda x \in D_e.\ 1 \text{ iff } x \text{ is a linguist in } M]$

$[\![\text{admires}]\!]^{b,M} = [\lambda x \in D_e.[\lambda y \in D_e.\ 1 \text{ iff } y \text{ admires } x \text{ in } M]]$

(*is*, *a* and C are semantically vacuous, i.e. they denote identity functions).