COGS543 Assignment 4

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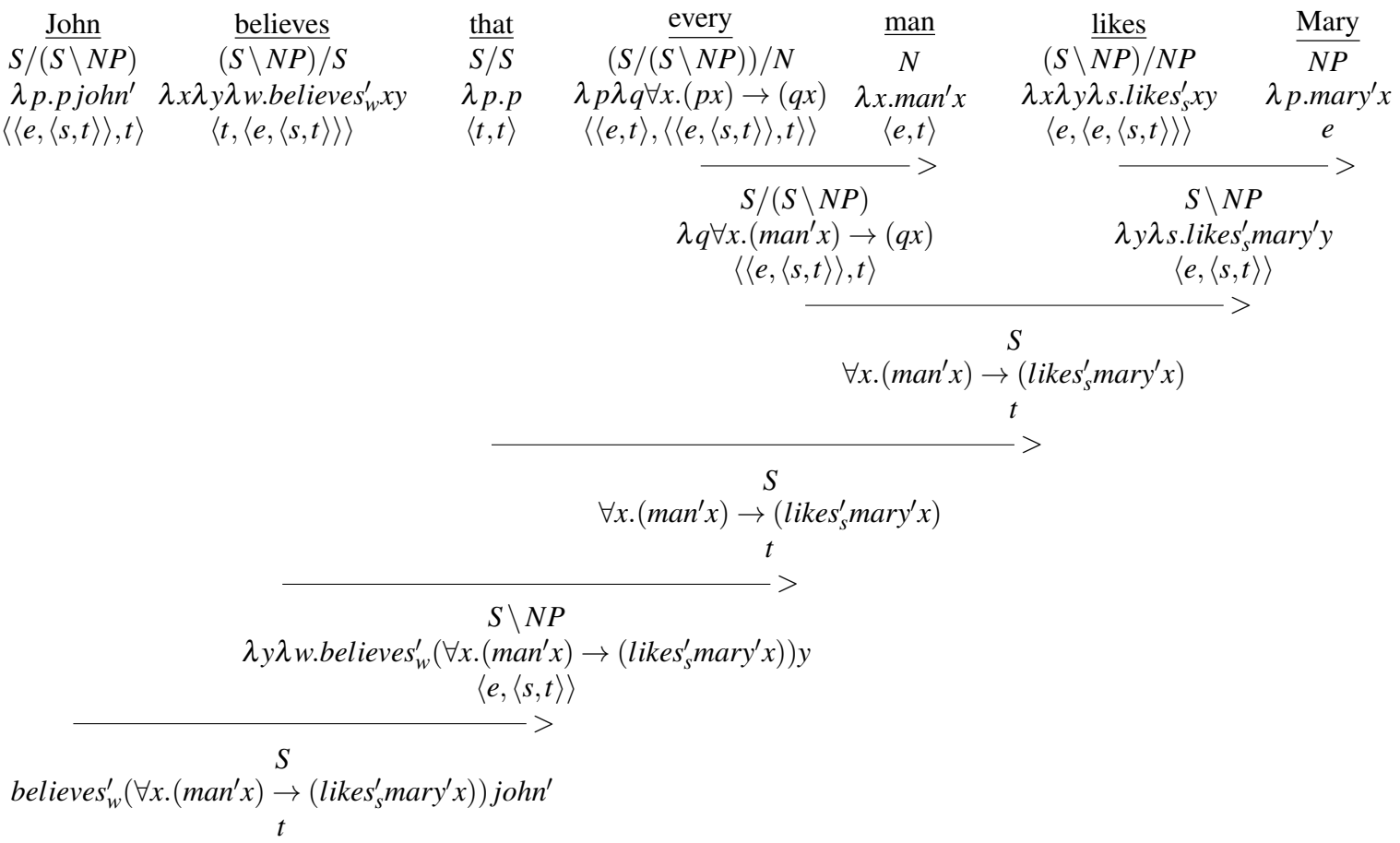
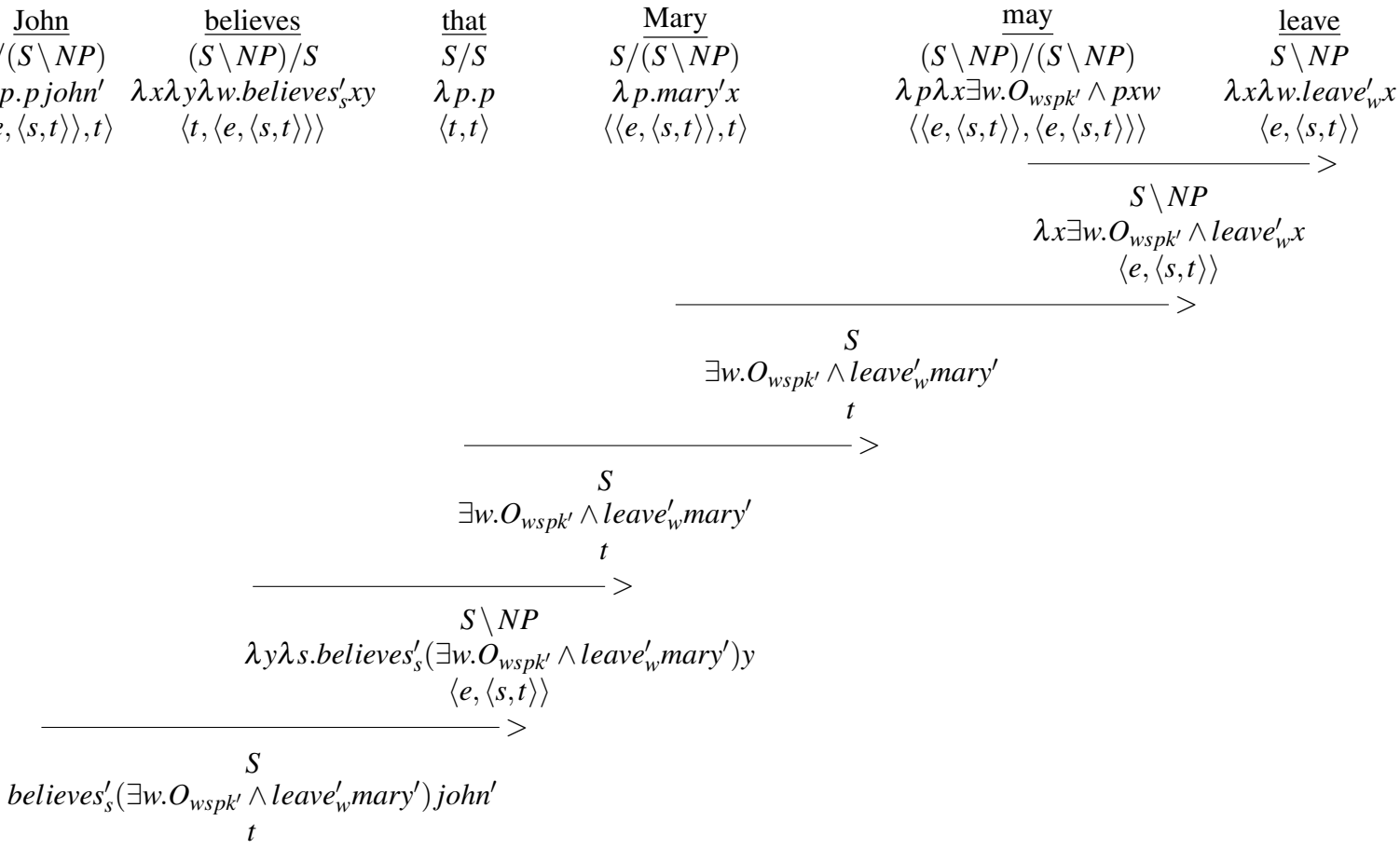
Question 1:



Question 2:


John
$S/(S\backslash NP)$
$\lambda p.p\,john'$
$\langle\langle e,\langle s,t\rangle\rangle,t\rangle$
believes
$(S\backslash NP)/S$
$\lambda x\lambda y\lambda w.believes'_s xy$
$\langle t,\langle e,\langle s,t\rangle\rangle\rangle$
that
S/S
$\lambda p.p$
$\langle t,t\rangle$
Mary
$S/(S\backslash NP)$
$\lambda p.mary' x$
$\langle\langle e,\langle s,t\rangle\rangle,t\rangle$
may
$(S\backslash NP)/(S\backslash NP)$
$\lambda p\lambda x\exists w.O_{wspk'} \wedge pxw$
$\langle\langle e,\langle s,t\rangle\rangle,\langle e,\langle s,t\rangle\rangle\rangle$
leave
$S\backslash NP$
$\lambda x\lambda w.leave'_w x$
$\langle e,\langle s,t\rangle\rangle$
>
$S\backslash NP$
$\lambda x\exists w.O_{wspk'} \wedge leave'_w x$
$\langle e,\langle s,t\rangle\rangle$
>
S
$\exists w.O_{wspk'} \wedge leave'_w mary'$
t
>
S
$\exists w.O_{wspk'} \wedge leave'_w mary'$
t
>
$S\backslash NP$
$\lambda y\lambda s.believes'_s(\exists w.O_{wspk'} \wedge leave'_w mary')y$
$\langle e,\langle s,t\rangle\rangle$
>
S
$believes'_s(\exists w.O_{wspk'} \wedge leave'_w mary')\,john'$
t