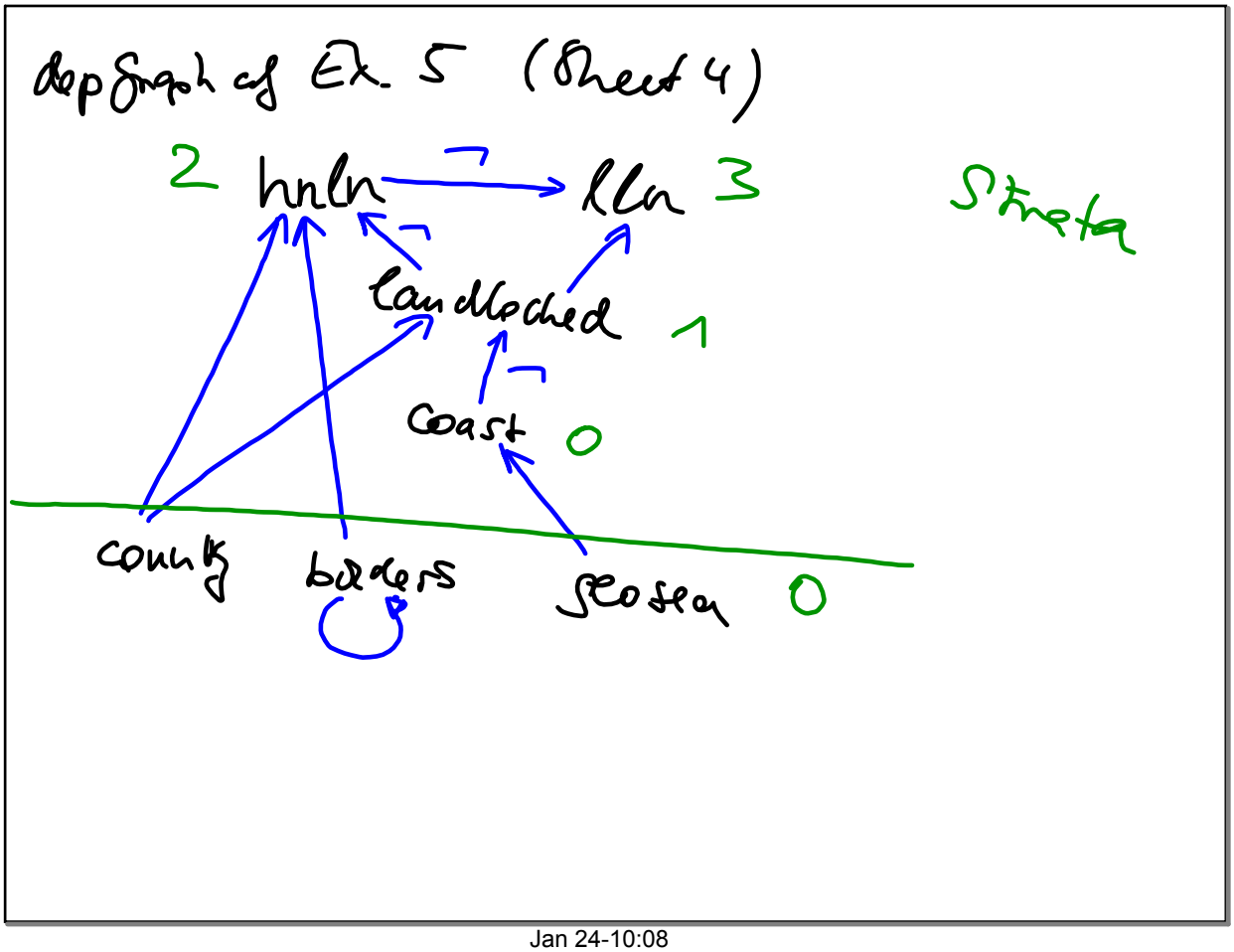

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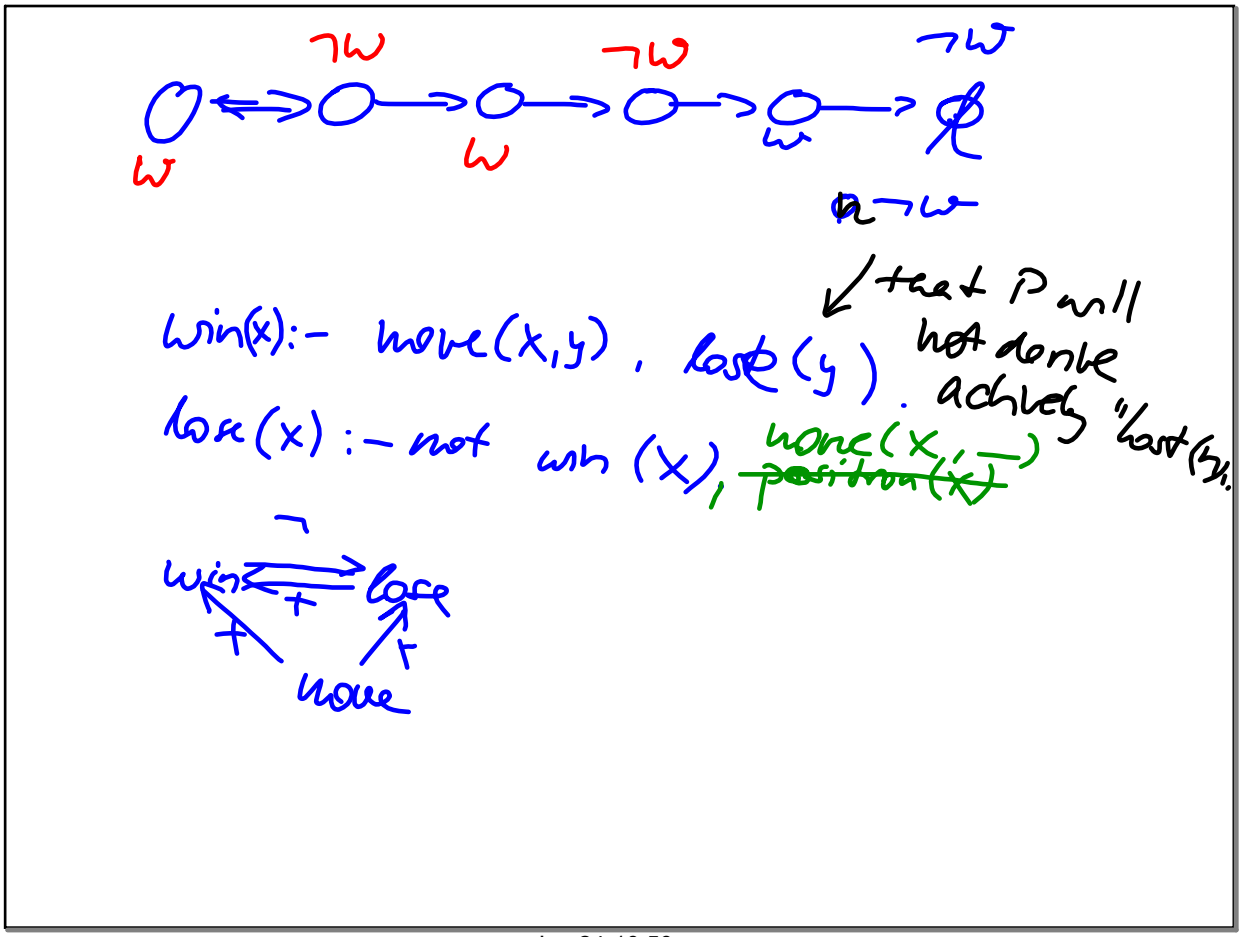

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Slide 600 "p or q"

$P = \{ p(a) :- \text{not } q(a).,\ q(a) :- \text{not } p(a). \}$

$\mathcal{H} = \{ p(a) \}$

$P^{\mathcal{H}} = \{ p(a) :- \text{true} \}$ (~~not q(a)~~)

$T^{\omega}_{P^{\mathcal{H}}}(\emptyset) = \{ p(a) \} = \mathcal{H}$ → stable

$\mathcal{H}' = \{ q(a) \}$ $P^{\mathcal{H}'} = \{ q(a) :- \text{true} \}$

$T^{\omega}_{P^{\mathcal{H}'}}(\emptyset) = \{ q(a) \}$ → stable

$\mathcal{H}'' = \emptyset$ first check if it is a model!

⇒ to be a model would require p(a)! and also q(a)

⇒ $\mathcal{H}''$ is not a model!

$\mathcal{H}''' = \{ p(a), q(a) \}$ is a model of P

stable? $P^{\mathcal{H}'''} = \{\}$ $T^{\omega}_{P^{\mathcal{H}'''}}(\emptyset) = \emptyset$ ⇒ not stable

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$I_0 = \emptyset$ ← underestimate of the atoms

$P^{I_0} = \{$ lose(n) :- true (~~¬win(n)~~).
lose(f) :- true (~~¬win(f)~~).
lose(a) :- true (~~¬win(a)~~).
⋮
win(n) :- move(n,c), true (~~¬win(c)~~)
win(a) :- move(a,f), true (~~¬win(f)~~)
⋮ $\}$

$T_{P^{I_0}}(\emptyset) = \{$ lose(n), lose(f), lose(a), ...
no move for n, f... → ~~win(n)~~ ~~win(f)~~ win(a), ... $\}$ $=: J_1$

⇒ all nodes are in 'lost'
all except dead-ends are 'in' win!

→ the dead ends are not in win

→ overestimate of the atoms!

$P^{J_1} = \{ \ldots \}$

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