

$(\mathbb{N}, <)$ $0 < 1 < 2 \dots$
well-founded

$(\mathbb{Z}, <)$ not well-founded

$\Sigma = \{a < b < c \dots < z\}$

lex Σ^2

$a b < b b$

Σ^*

$a b a > a a a a$

$a b > a a b > a a a b > \dots$

while (i < k) {

1 i = 1; i

2 i = i + j; i

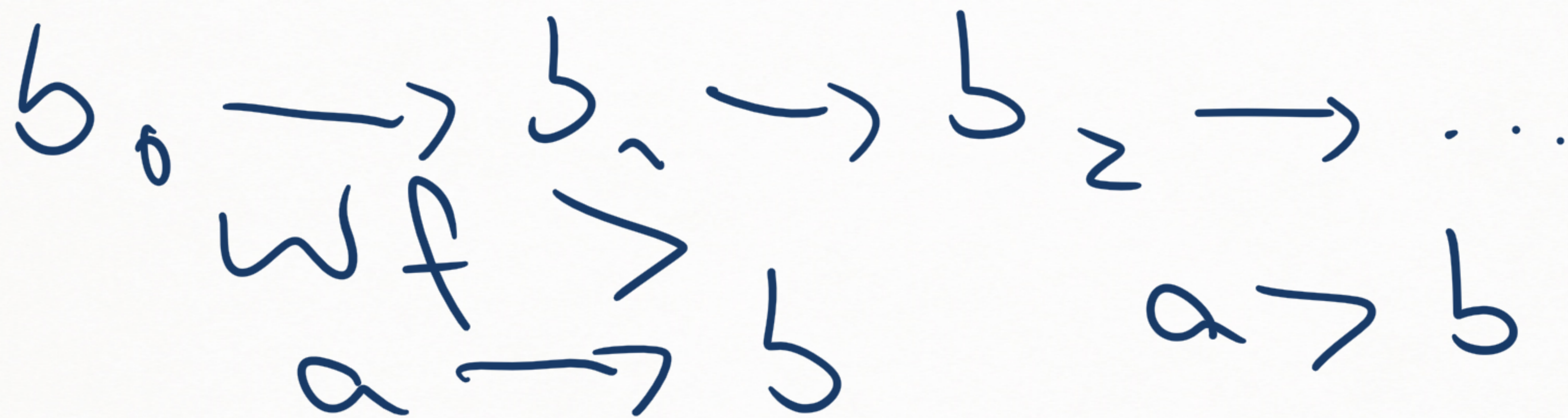
3 }
4 }

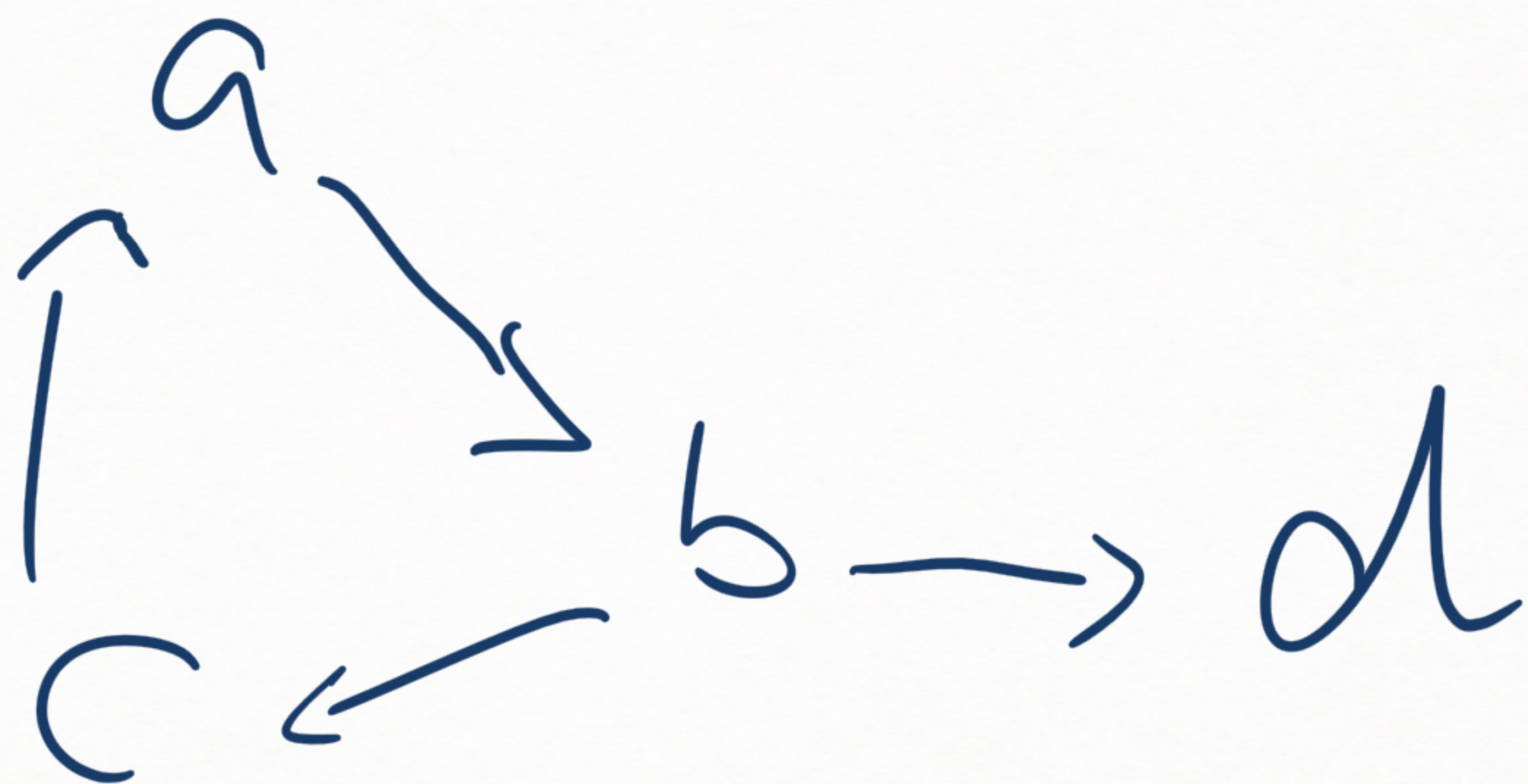
State State'



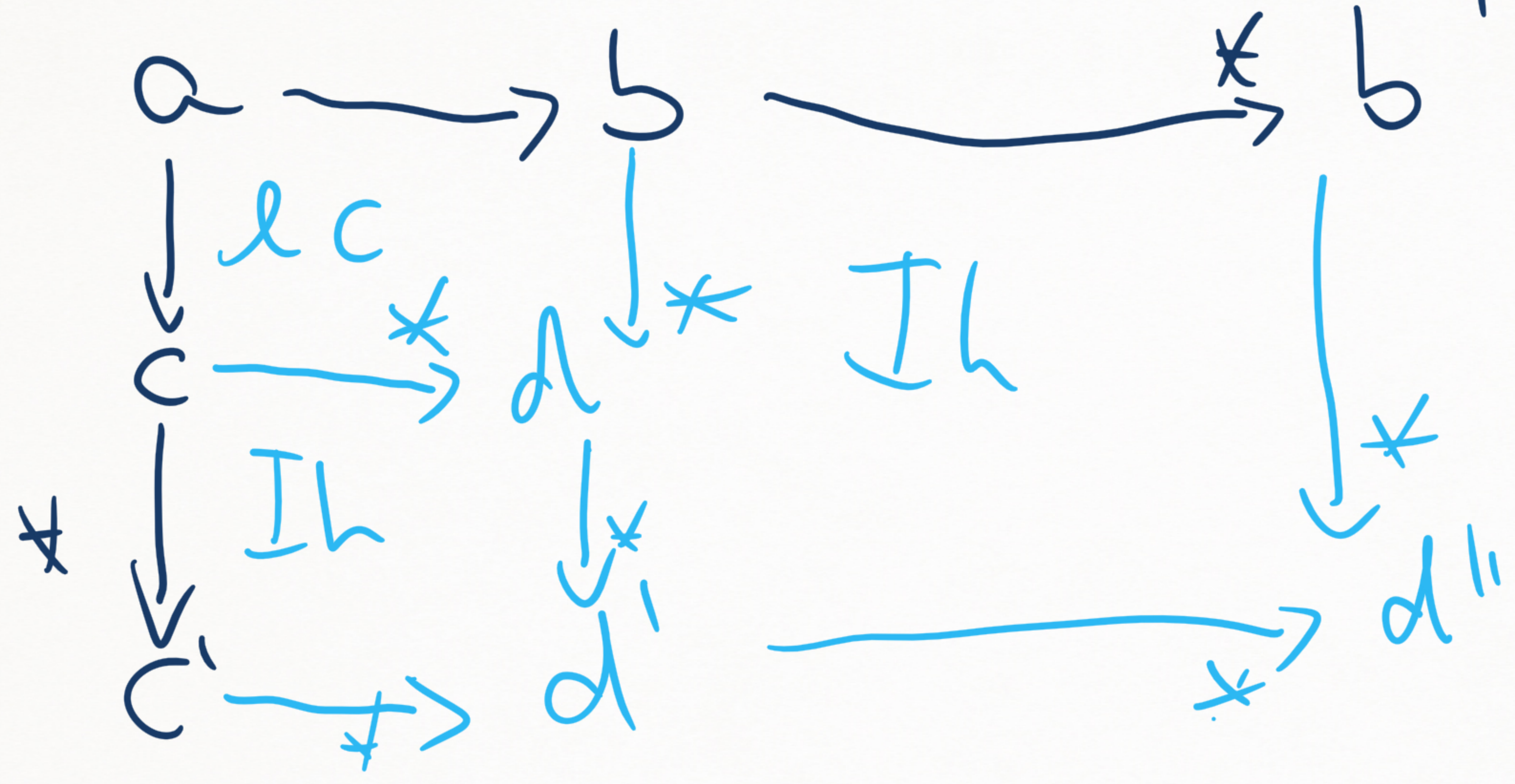


While True i
 termination b_0, b_1, \dots





local confluence + termination
 \implies confluence
 + termination $b_0 \rightarrow b_1 \rightarrow \dots \rightarrow b_k$
 \implies well-founded ordering
 use structural induction



① x, y $\left(\begin{array}{l} 1. \quad 3x + 2y = 5 \\ 2. \quad 2x - y = 0 \end{array} \right)$ findig Nochte
" all resolution

2. $y = 2x$
substit in 1.

2 $\left\{ \begin{array}{l} 3x + 2y = 6 \\ 6x + 4y = 12 \end{array} \right.$

$3x + 4x = 5$
 $x = \frac{5}{7}$

$$p = (P \wedge (P \vee Q)) \quad \text{Set } A(P) = 1$$

$$A(P) = 0 \rightsquigarrow A(Q) = 0$$

Calculus
implies
state

$$q = (P \rightarrow (P \rightarrow Q)) \quad \text{Set } A(P) = 0$$

$$A(P) = 1 \quad A(Q) = 1$$

$$A(q) = 0 \text{ if } A(P) = 1 \quad A(Q) = 0$$

$$P \rightarrow (\neg R \vee P) \text{ valid}$$

$$A(P) = A(Q) = 0$$

$$A(P) = 0 \checkmark$$

$$A(P) = 1$$

$$(P \vee Q) \wedge (\neg P \vee Q) \wedge (P \vee \neg Q) \wedge (\neg P \vee \neg Q) \text{ What}$$

4 valuations