Definition (Another poset of intervals)
Given a partially ordered set $\mathbf{P}$, an interval is an ordered pair of elements $\langle l, u \rangle$ of $\mathbf{P}$, such that $l \preceq_{\mathbf{P}} u$. One can define a *poset of intervals* on $\mathbf{P}$, denoted $\mathbf{Int}'(P)$. Intervals can be ordered using the following rule:

$$\frac{\langle p_1, p_2 \rangle \preceq_{\mathbf{Int}'(\mathbf{P})} \langle q_1, q_2 \rangle}{(p_1 \preceq_{\mathbf{P}} q_1) \wedge (p_2 \preceq_{\mathbf{P}} q_2)}.$$