

Definition (Poset of intervals). An interval is an ordered pair of elements $\langle p, q \rangle$ of \mathbf{P} , such that $p \leq_{\mathbf{P}} q$. Given a poset \mathbf{P} , one can define a *poset of intervals* on \mathbf{P} . Intervals can be ordered by inclusion:

$$\langle p_1, q_1 \rangle \leq_{\text{Int}(\mathbf{P})} \langle p_2, q_2 \rangle \Leftrightarrow (p_1 \leq_{\mathbf{P}} p_2) \wedge (q_2 \leq_{\mathbf{P}} q_1).$$