

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

$$\langle l_1, u_1 \rangle \leq_{\text{Int}P} \langle l_2, u_2 \rangle \Leftrightarrow (l_1 \leq_{\mathbf{P}} l_2) \wedge (u_2 \leq_{\mathbf{P}} u_1).$$

rewrite above with the right letters