

Definition (Upper set). An *upper set* is a subset S of a poset \mathbf{P} such that, if an element is inside, all elements above it are inside as well. In formulas:

$$U \text{ is an upper set of } \mathbf{P} \equiv \forall x \in S, \forall y \in \mathbf{P} : x \leq_{\mathbf{P}} y \Rightarrow y \in S.$$