for all $b \in A$). In formulas: $\text{Max}: \mathcal{P}\mathbf{P} \to \mathcal{A}\mathbf{P}$ $\mathbf{A} \mapsto \{c \in \mathbf{A}: (d \in \mathbf{A}) \land (d \succeq_{\mathbf{P}} c) \Rightarrow (c = d)\}.$

Definition (Max). Max: $\mathcal{P}P \to \mathcal{A}P$ is the map that sends a subset A of a poset

to the maximal elements of that subset (those elements $a \in A$ such that $a \geq_{\mathbf{P}} b$

Note that Max(A) could be empty.