Definition (Lattice). A *lattice* is a poset $\mathbf{P} = \langle \mathbf{P}, \leq_{\mathbf{P}} \rangle$ with the additional property that, for any two-element subset $\{x, y\} \subseteq \mathbf{P}$, both the join $\vee\{x, y\}$ and the meet $\wedge\{x, y\}$ exist. Usually these are written using infix notation as $x \vee y$ and $x \wedge y$, respectively.