Definition (Complete Lattice). A poset $\mathbf{P} = \langle \mathbf{P}, \preceq \rangle$ is a *complete lattice* if every subset $\mathbf{Q}$ of $\mathbf{P}$ has both a *greatest lower bound* (often referred to as the *infimum, meet*) and a *least upper bound* (often referred to as the *supremum, join*) in $\langle \mathbf{P}, \preceq \rangle$.