Definition (Upper set)

An *upper set* **U** is a subset of a poset **P** such that, if $x \in \mathbf{U}$, then all elements of **P** that are above x are also in **U**. In other words:

$$\frac{x \in \mathbf{U} \quad x \leq_{\mathbf{P}} y}{y \in \mathbf{U}}$$