

**Definition** (Upward closed set)

A lower set **A** is *upward-closed* in a poset **P** if

$$\mathbf{A} = \downarrow \text{Max } \mathbf{A}.$$

The set of upward-closed lower sets of **P** is denoted  $\overline{\text{LowerSets } \mathbf{P}}$ .