

**A tree-type data type is based on a tree-type relation  $P$ : for any  $a, b, c, d \in A$ ,**

**1.  $P(a, a) = 0$ ,**

**2.  $P(a, b) \& P(a, c) \Rightarrow P(b, c) \vee P(c, b)$ .**

**There is no numerical representation completely consistent with these properties.**