

Definition 3.216. [120] Let X be a well-ordered non-empty set. Suppose $x \in X$ is not the maximum, then the set of majorants $\{y \in X : y > x\}$ is not empty, so we define the successor element $S(x)$ of x as

$$S(x) = \min\{y \in X : y > x\} \quad .$$