Additional Problems

x0.1 In a well ordered set U. If $u \leq v$ and v is limit point then either $u = v$ or $Su < v$. Furthermore, if $\forall n \in \mathbb{N}, S^n(u) < v$, then $w = \sup\{S^n(u) \mid n \in \mathbb{N}\}$ exists and is a limit point satisfying $w \leq v$.

x0.2 Suppose U, f and g are as in Quiz4 Problem 1a. If $u \leq v$ are elements of U, then $g(u) \leq g(v)$.

x0.3 Suppose U, f, g and π are as in Quiz4 Problem 1. If u is the maximal element of U and $n = f(u)$, $v = g(u)$, then π maps onto $\operatorname{seg}((n+1, v))$. On the otherhand, if U has no maximal element, then π is surjective.