

**Exercise 4.f.6.** [1XP] Prerequisites: [26H], [1XS]. Difficulty: \*.

Assume that a (partial) order  $\leq$  associated to  $\mathbb{N}$  satisfies [26H]. Use the strong induction principle [1XS] to show that every non-empty  $A \subseteq \mathbb{N}$  contains a minimal element, i.e.

$$\exists a \in A, \forall b \in A, \neg(b < a) \quad .$$

**Solution 1.** [1XZ]