Definition: The length of a linked list of natural numbers L, $length : L \rightarrow \mathbb{N}$ is defined by

Basis Step: $\qquad\qquad\qquad\qquad\qquad\qquad length(\; [] \;) \qquad = 0$

Recursive Step: If $l \in L$ and $n \in \mathbb{N}$, then $\quad length(\; (n, l) \;) \quad = 1 + length(l)$