Using strong induction

Let $F : \mathbb{Z}^+ \to \mathbb{Z}$ be defined by

- $F(1) = 1$ and $F(2) = 0$
- $F(n) = F(n-2)$ if $n > 2$

Then $F(n) = n \mod 2$ for all $n \in \mathbb{Z}^+$.

Let $P(k)$ be the assertion:

- $F(k) = k \mod 2$

and let us assume that $P(1), P(2), \ldots, P(n)$ are all true.

We need two base cases $n = 1$ and $n = 2$.

Does this work? (YES)

Why do we need two base cases? (You'll see later)