

Inference at * 1 2 1
of proof for Lemma less-fast-fib:

1. $n : \mathbb{Z}$
2. $0 < n$
3. $\forall a, b : \mathbb{N}.$
 $\{m : \mathbb{N} \mid$
 $\forall k : \mathbb{N}.$
 $(a = \text{fib}(k))$
 $\Rightarrow ((k \leq 0) \Rightarrow (b = 0))$
 $\Rightarrow ((0 < k) \Rightarrow (b = \text{fib}(k - 1)))$
 $\Rightarrow (m = \text{fib}((n - 1) + k))\}$
4. $a : \mathbb{N}$
5. $b : \mathbb{N}$
6. $\forall b@_0 : \mathbb{N}.$
 $\{m : \mathbb{N} \mid$
 $\forall k : \mathbb{N}.$
 $(a + b = \text{fib}(k))$
 $\Rightarrow ((k \leq 0) \Rightarrow (b@_0 = 0))$
 $\Rightarrow ((0 < k) \Rightarrow (b@_0 = \text{fib}(k - 1)))$
 $\Rightarrow (m = \text{fib}((n - 1) + k))\}$
- $\vdash \{m : \mathbb{N} \mid$
 $\forall k : \mathbb{N}.$
 $(a = \text{fib}(k))$
 $\Rightarrow ((k \leq 0) \Rightarrow (b = 0))$
 $\Rightarrow ((0 < k) \Rightarrow (b = \text{fib}(k - 1)))$
 $\Rightarrow (m = \text{fib}(n + k))\}$
by InstHyp [a] (-1)
- 1:wf..... NILNIL
- $\vdash a \in \mathbb{N}$
- 2:
7. $\{m : \mathbb{N} \mid$
 $\forall k : \mathbb{N}.$
 $(a + b = \text{fib}(k))$
 $\Rightarrow ((k \leq 0) \Rightarrow (a = 0))$
 $\Rightarrow ((0 < k) \Rightarrow (a = \text{fib}(k - 1)))$
 $\Rightarrow (m = \text{fib}((n - 1) + k))\}$
- $\vdash \{m : \mathbb{N} \mid$
 $\forall k : \mathbb{N}.$
 $(a = \text{fib}(k))$
 $\Rightarrow ((k \leq 0) \Rightarrow (b = 0))$

$$\Rightarrow ((0 < k) \Rightarrow (b = \text{fib}(k - 1)))$$

$$\Rightarrow (m = \text{fib}(n+k))\}$$

.