

Inference at * 1 2 1 2 1 1 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. $\forall b@_0 : \mathbb{N}.$
 $\{m : \mathbb{N} \mid$
 $\forall k : \mathbb{N}.$
 $(a + b = \text{fib}(k))$
 $\Rightarrow ((k \leq 0) \Rightarrow (b@_0 = 0))$
 $\Rightarrow ((0 < k) \Rightarrow (b@_0 = \text{fib}(k - 1)))$
 $\Rightarrow (m = \text{fib}((n - 1) + k))\}$
7. $m : \mathbb{N}$
8. $\forall k : \mathbb{N}.$
 $(a + b = \text{fib}(k))$
 $\Rightarrow ((k \leq 0) \Rightarrow (a = 0))$
 $\Rightarrow ((0 < k) \Rightarrow (a = \text{fib}(k - 1)))$
 $\Rightarrow (m = \text{fib}((n - 1) + k))$
9. $k : \mathbb{N}$
10. $a = \text{fib}(k)$
11. $(k \leq 0) \Rightarrow (b = 0)$
12. $(0 < k) \Rightarrow (b = \text{fib}(k - 1))$
13. $k = 0$
- $\vdash a + b = \text{fib}(0 + 1)$
by $((D (11)) \cdot)$
CollapseTHEN (Auto $\cdot$)
CollapseTHEN $((\text{if } (\text{first_bool } T : b$
 $) \text{ then HypSubst' else RevHypSubst'}) (-1)(0)) \cdot$
- 1:
11. $(0 < k) \Rightarrow (b = \text{fib}(k - 1))$
12. $k = 0$
13. $b = 0$
- $\vdash a + 0 = \text{fib}(0 + 1)$

