

Inference at * 2
of proof for Lemma primrec_add:

1. $T : \text{Type}$
2. $n : \mathbb{Z}$
3. $0 < n$
4. $\forall m:\mathbb{N}, b:T, c:(\{0..(n-1)+m\}^- \rightarrow T \rightarrow T).$
 $\text{primrec}((n-1)+m;b;c) = \text{primrec}(n-1;\text{primrec}(m;b;c);\lambda i,t. c(i+m,t))$
5. $m : \mathbb{N}$
6. $b : T$
7. $c : \{0..(n+m)\}^- \rightarrow T \rightarrow T$

$\vdash \text{primrec}(n+m;b;c) = \text{primrec}(n;\text{primrec}(m;b;c);\lambda i,t. c(i+m,t))$
by ((InstHyp [m;b;c] 4)
CollapseTHEN ((Auto_aux (first_nat 1:n) ((first_nat 2:n
,(first_nat 3:n)) (first_tok :t) inil_term))))).

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8. $\text{primrec}((n-1)+m;b;c) = \text{primrec}(n-1;\text{primrec}(m;b;c);\lambda i,t. c(i+m,t))$
 $\vdash \text{primrec}(n+m;b;c) = \text{primrec}(n;\text{primrec}(m;b;c);\lambda i,t. c(i+m,t))$

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