

Inference at \* 2 1 1 1 1  
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.  $c : \{0..(n+m)\}^- \rightarrow T \rightarrow T$
8.  $b' : T$
9.  $\text{primrec}(m;b;c) = b'$
10.  $\text{primrec}((n-1)+m;b;c) = \text{primrec}(n-1;b';\lambda i,t. c(i+m,t))$
11.  $\neg(n+m = 0)$
12.  $\neg(n = 0)$

$\vdash c((n-1)+m, \text{primrec}((n-1)+m;b;c)) = c((n-1)+m, \text{primrec}(n-1;b';\lambda i,t. c(i+m,t)))$   
by ((HypSubst (-3) 0)  
CollapseTHEN ((Auto\_aux (first\_nat 1:n) ((first\_nat 2:n  
), (first\_nat 3:n)) (first\_tok SupInf:t) inil\_term)))