

Inference at * 1 1 1
of proof for Lemma nat_ind_tp:

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1.  $P : \mathbb{N} \rightarrow \mathbb{P}\{k\}$ 
2.  $P(0)$ 
3.  $\forall i:\mathbb{N}^+. P(i - 1) \Rightarrow P(i)$ 
4.  $i : \mathbb{Z}$ 
5.  $i \geq 0$ 
 $\vdash P(i)$ 
  by (\p.IntInd (get_int_arg 'hn' p) p)

1: .....downcase..... NILNIL

  5.  $i < 0$ 
  6.  $((i + 1) \geq 0) \Rightarrow P(i + 1)$ 
   $\vdash (i \geq 0) \Rightarrow P(i)$ 
2: .....basecase..... NILNIL

  3.  $\forall i:\mathbb{N}^+. P(i - 1) \Rightarrow P(i)$ 
   $\vdash (0 \geq 0) \Rightarrow P(0)$ 
3: .....upcase..... NILNIL

  5.  $0 < i$ 
  6.  $((i - 1) \geq 0) \Rightarrow P(i - 1)$ 
   $\vdash (i \geq 0) \Rightarrow P(i)$ 
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