

Inference at * 1 3
of proof for Lemma decidable_or:

```
1. P :  $\mathbb{P}$ 
2. Q :  $\mathbb{P}$ 
3.  $\neg P$ 
4. Q
 $\vdash (P \vee Q) \vee (\neg(P \vee Q))$ 
  by (((DNth 1 0)
    CollapseTHENM (DNth 2 0)).)
  CollapseTHEN ((Auto_aux (first_nat 1:n
    ) ((first_nat 1:n),(first_nat 3:n)) (first_tok :t) inil_term))).
.
```