

Inference at * 2
of proof for Lemma decidable_functionality:

```

1.  $P : \mathbb{P}$ 
2.  $Q : \mathbb{P}$ 
3.  $P \iff Q$ 
4.  $\text{Dec}(Q)$ 
 $\vdash \text{Dec}(P)$ 
  by ((Using ['A',Q] (BackThruLemma 'iff_preserves_decidability'))
  CollapseTHEN (
    (Auto_aux (first_nat 1:n) ((first_nat 1:n),(first_nat 4:n)) (first_tok :t) inil_term)))·

1:
   $\vdash \text{Dec}(Q)$ 
2:
   $\vdash Q \iff P$ 
.
```