Inference at $*$ 1 1 1 1 2
 of proof for Lemma inv_image_ind_tp:

1. T : Type
2. r : $T \to T \to \mathbb{P}$
3. S : Type
4. f : $S \to T$
5. WellFnd{i}(T;x,y.$r(x,y)$)
6. P : $S \to \mathbb{P}$
7. $\forall j{:}S.\ (\forall k{:}S.\ r(f(k),f(j)) \Rightarrow P(k)) \Rightarrow P(j)$
8. n : S
9. $\forall x{:}T,\ n{:}S.\ (f(n) = x) \Rightarrow P(n)$

$\vdash P(n)$

```
 by (\p.let y = get_var_arg ‘n‘ p
   in let r = get_term_arg ‘f‘ p
   in
   ((((((
 DTerm (mk_apply_term r (mvt y)) (-1))
 CollapseTHENM (((DTerm (mvt y) (-1))

     CollapseTHENA (Declaration))·))·)
 CollapseTHENM (D (-1)))·)
 CollapseTHENM (
   Hypothesis))· p)
```

1: . . . . .wf. . . . . NILNIL

8. n : S

$\vdash f(n) \in T$

2: . . . . .antecedent. . . . . NILNIL

8. n : S

$\vdash f(n) = f(n)$

.

---

http://www.nuprl.org/FDLcontent/p0_942988_/p121_96841_{inv_image_ind_tp}1_1_1_1_2.html