```
prop_decide  THM

⊢  ∀S:Sequent. |= S  ∨ (∃a:Assignment. a |≠ S)  by Analyze 0
|
1. S : Sequent
⊢  |= S  ∨ (∃a:Assignment. a |≠ S)
| by Inst
|    Thm* ∀G:Sequent.
|         ∃L:Sequent List.
|         ∀s∈L.(ρ(s) = 0)
|         & (∀s∈L.|= s  ⇒ |= G )
|         & (∀a:Assignment. ∃s∈L.a |≠ s ⇒ a |≠ G)
|    {normalization_lemma}
|    [S]
|    THEN
|    Repeat (Analyze -1)
|
2. L : Sequent List
3. ∀s∈L.(ρ(s) = 0)
4. ∀s∈L.|= s  ⇒ |= S
5. ∀a:Assignment. ∃s∈L.a |≠ s ⇒ a |≠ S
⊢
| by FwdThru
|    Thm* ∀L:Sequent List.
|         ∀s∈L.(ρ(s) = 0) ⇒ ∀s∈L.|= s  ∨ (∃a:Assignment. ∃s∈L.a |≠ s)
|    {zero_rank_valid_or_falsifiable}
|    [3]
|
6. ∀s∈L.|= s  ∨ (∃a:Assignment. ∃s∈L.a |≠ s)
⊢   by Analyze -1
|
|\
| 6. ∀s∈L.|= s
| ⊢   by FwdThru -3 [-1]
| |
| 7. |= S
| ⊢   by Choose [1]
|
.\
. 6. ∃a:Assignment. ∃s∈L.a |≠ s
. ⊢   by Analyze -1
. |
. 6. a : Assignment
. 7. ∃s∈L.a |≠ s
. ⊢   by FwdThru -3 [-1]
. |
. 8. a |≠ S
. ⊢   by Choose [2]
. |
. ⊢  ∃a:Assignment. a |≠ S  by Witness a
END
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