```
hor_def  THM

⊢  equal
|  (or
|  ,λt1:hbool. λt2:hbool. all
|                         (λt:hbool. implies
|                                    (implies(t1,t)
|                                    ,implies(implies(t2,t),t))))
| by Simpset [‘hol_to_nuprl‘] THEN Simp THEN StrongAuto
|
⊢  (λp:𝔹. λq:𝔹. p ∨₂ q) = (λt1:𝔹. λt2:𝔹. ∀ᵦt:𝔹. t1⇒₂t⇒₂t2⇒₂t⇒₂t)
| by Simpset [‘ext‘] THEN Simp THEN StrongAuto
|
1. t1 : 𝔹
2. t2 : 𝔹
⊢  (t1 ∨₂ t2) = (∀ᵦt:𝔹. t1⇒₂t⇒₂t2⇒₂t⇒₂t)
| by Simpset [‘bequal‘] THEN Simp THEN StrongAuto
|
|\
| 1. t1 : 𝔹
| 2. t2 : 𝔹
| 3. t1 ∨ t2
| 4. t : 𝔹
| 5. t1 ⇒ t
| 6. t2 ⇒ t
| ⊢  t
|   by Analyze 3 THEN Simp THEN StrongAuto THEN CompleteHypBackchain
|
.\
. 1. t1 : 𝔹
. 2. t2 : 𝔹
. 3. ∀t:𝔹. (t1 ⇒ t) ⇒ (t2 ⇒ t) ⇒ t
. ⊢  t1 ∨ t2
. | by Assert (t1 ∨₂ t2) THENL [BackThru 3;Id] THEN Simp
. |    THEN
. |    StrongAuto
. |
. |\
. | 1. t1 : 𝔹
. | 2. t2 : 𝔹
. | 3. ∀t:𝔹. (t1 ⇒ t) ⇒ (t2 ⇒ t) ⇒ t
. | 4. t1
. | ⊢  t1 ∨ t2  by Sel 1 (Analyze 0) THEN Simp THEN StrongAuto
. |
. .\
. . 1. t1 : 𝔹
. . 2. t2 : 𝔹
. . 3. ∀t:𝔹. (t1 ⇒ t) ⇒ (t2 ⇒ t) ⇒ t
. . 4. t2
. . ⊢  t1 ∨ t2  by Sel 2 (Analyze 0) THEN Simp THEN StrongAuto
END
```