```
null_false_lemma  THM

⊢  ∀L:T List. null(L) = false₂ ⟺ (∃h:T, t:T List. L = h.t)
| by UnivCD
|
1. T : Type
2. L : T List
⊢  null(L) = false₂ ⟺ (∃h:T, t:T List. L = h.t)
| by Analyze -1 THEN Rewrite (HigherC null_unrollC) 0
|
|\
| 3. true₂ = false₂
| ⊢  ∃h:T, t:T List. nil = h.t
|   by ApFunToHypEquands ‘x’ if x→ 0 else 1 fi ℤ -1 THEN AbReduce -1
|
|\
| 3. ∃h:T, t:T List. nil = h.t
| ⊢  true₂ = false₂  by Analyze -1 THEN Analyze -1
| |
| 3. h : T
| 4. t : T List
| 5. nil = h.t
| ⊢  true₂ = false₂
|   by ApFunToHypEquands ‘x’ (Case of x; nil → 0 ; h.t → 1) ℤ -1
|      THEN
|      AbReduce -1
|
.\
. 3. u : T
. 4. v : T List
. 5. false₂ = false₂
. ⊢  ∃h:T, t:T List. u.v = h.t
.   by With u (Analyze 0) THEN With v (Analyze 0)
END
```