```
nat_descent  THM

⊢  ∀P:(ℕ→Prop).
|  (∀x:ℕ. P(x) ⇒ (∃x':ℕ. x'<x & P(x'))) ⇒ ¬(∃x:ℕ. P(x))  by Auto
|
1. P : ℕ→Prop
2. ∀x:ℕ. P(x) ⇒ (∃x':ℕ. x'<x & P(x'))
⊢  ¬(∃x:ℕ. P(x))  by Analyze THEN Analyze3
|
3. x : ℕ
4. P(x)
⊢  False  by CompNatInd Hyp:3 THEN CBV4: x'
|
4. ∀x':ℕ. x'<x ⇒ P(x') ⇒ False
⊢  P(x) ⇒ False  by Analyze THEN FwdThru: Hyp:2 on [ Hyp:5 ]
|
5. P(x)
6. ∃x':ℕ. x'<x & P(x')
⊢  False  by ExistHD Hyp:6
|
6. x' : ℕ
7. x'<x
8. P(x')
⊢  False  by FwdThru: Hyp:4 on [ x'<x ]
END
```