```
nd_comp_init_wf  THM

⊢  ∀Alph,St:Type, q:St. [<q,[]>] ∈ NComp(Alph;St)
| by Unfold ‘nd_comp_init‘ 0 THEN Unfold ‘nd_computation‘ 0
|    THEN
|    Unfold ‘list_p‘ 0
|
1. Alph : Type
2. St : Type
3. q : St
⊢  [<q,nil>]
|  ∈ {C:{l:((St×Alph*)*)| ||l||>0 }| ∀i:ℕ(||C||-1). ||2of(C[i])||>0 }
| by Analyze
|
|\
| ⊢  [<q,nil>] ∈ {l:((St×Alph*)*)| ||l||>0 }  by Analyze
| |
| .....set predicate .....
| ⊢  ||[<q,nil>]||>0  by Reduce 0
|
.\
. .....set predicate .....
. ⊢  ∀i:ℕ(||[<q,nil>]||-1). ||2of([<q,nil>][i])||>0
. | by Assert (||[<q,nil>]|| ∈ ℤ)
. |
. |\
. | .....assertion .....
. | ⊢  ||[<q,nil>]|| ∈ ℤ
. |   by Inst Thm* ∀A:Type, l:A*. ||l|| ∈ ℤ    {length_wf1}
. |      [St×Alph*;[<q,nil>]]
. |
. .\
. . 4. ||[<q,nil>]|| ∈ ℤ
. . ⊢   by Analyze 0
. . |
. . 5. i : ℕ(||[<q,nil>]||-1)
. . ⊢  ||2of([<q,nil>][i])||>0  by Analyze 5
. . |
. . 5. i : ℤ
. . 6. 0 ≤ i < ||[<q,nil>]||-1
. . ⊢   by Reduce 6
END
```