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sfa_doc_sexpr_size_wf  THM

⊢  ∀A:Type, s:Sexpr(A). Size(s) ∈ ℕ+  by Analyze
|
1. A : Type
⊢  ∀s:Sexpr(A). Size(s) ∈ ℕ+  by AbRecTypeInd Concl
|
2. Q : Sexpr(A)→Prop
3. ∀s:{s:Sexpr(A)| Q(s) }. Size(s) ∈ ℕ+
4. s : ({s:Sexpr(A)| Q(s) }×{s:Sexpr(A)| Q(s) })+A
⊢  Size(s) ∈ ℕ+
| by Analyze-1 THENL [Analyze-1;Id] THEN ←Def of Cons(s1;s2) | Inj(a)
|
|\
| 4. x1 : {s:Sexpr(A)| Q(s) }
| 5. x2 : {s:Sexpr(A)| Q(s) }
| ⊢  Size(Cons(x1;x2)) ∈ ℕ+
| | by Compute ⌈Size(Cons(x1;x2))⌉ *⇒ Size(x1)+Size(x2)
| |
| ⊢  Size(x1)+Size(x2) ∈ ℕ+
|   by BackThru: ∀a,b:ℕ+. a+b ∈ ℕ+ THENW BackThru: Hyp:3
|
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. 4. y : A
. ⊢  Size(Inj(y)) ∈ ℕ+  by Compute ⌈Size(Inj(y))⌉ *⇒ 1
END
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