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fpf-join-dom  THM

⊢  ∀A:Type, B:(A→Type), eq:EqDecider(A), f,g:a:A fp-> B(a), x:A.
|  x ∈ dom(f ⊕ g) ⟺ x ∈ dom(f) ∨ x ∈ dom(g)
| by Unfolds [‘fpf‘;‘fpf-join‘;‘fpf-dom‘] 0 THEN Unfold ‘fpf-dom‘ 0
|     THEN
|     Reduce 0
|     THEN
|     UnivCD
|     THEN
|     RWO
|     Thm* ∀eq:EqDecider(A), L:A List, x:A.
|          deq-member(eq;x;L) ⟺ (x ∈ L)
|     {assert_DASH_deq_DASH_member}
|     0
|     THEN
|     RWO
|     Thm* ∀x:T, l1,l2:T List. (x ∈ l1 @ l2) ⟺ (x ∈ l1) ∨ (x ∈ l2)
|     {member_append}
|     0
|     THEN
|     RWO
|     Thm* ∀P:(T→𝔹), L:T List, x:T.
|          (x ∈ filter(P;L)) ⟺ (x ∈ L) & P(x)
|     {member_filter}
|     0
|     THENA
|     Reduce 0
|     THEN
|     Reduce 0
|     THEN
|     AutoBoolCase deq-member(eq;x;1of(f))
|     THEN
|     RWO
|     Thm* ∀eq:EqDecider(A), L:A List, x:A.
|          deq-member(eq;x;L) ⟺ (x ∈ L)
|     {assert_DASH_deq_DASH_member}
|     -1
|
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| 1. A : Type
| 2. B : A→Type
| 3. EqDecider(A)
| 4. f : d:A List×a:{a:A| (a ∈ d) }→B(a)
| 5. g : d:A List×a:{a:A| (a ∈ d) }→B(a)
| 6. x : A
| 7. (x ∈ 1of(f))
| ⊢  (x ∈ 1of(f)) ∨ (x ∈ 1of(g)) & False
|     ⟺
|     (x ∈ 1of(f)) ∨ (x ∈ 1of(g))  by Auto THEN OrLeft
|
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. 1. A : Type
. 2. B : A→Type
. 3. EqDecider(A)
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. 4. f : d:A List×a:{a:A| (a ∈ d) }→B(a)
. 5. g : d:A List×a:{a:A| (a ∈ d) }→B(a)
. 6. x : A
. 7. ¬(x ∈ 1of(f))
. ⊢  (x ∈ 1of(f)) ∨ (x ∈ 1of(g)) & True ⟺ (x ∈ 1of(f)) ∨ (x ∈ 1of(g))
.   by Auto THEN ParallelOp -1
END
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