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array_seg_wf  THM

⊢  ∀T:Type, i:ℤ, j:{i...}, a:[T]Array{i..j⁻}, m:{i..j⁻}, n:{m..j⁻}.
|  a[m..n] ∈ [T]Array{m..n⁻}  by UnivCD
|
1. T : Type
2. i : ℤ
3. j : {i...}
4. a : [T]Array{i..j⁻}
5. m : {i..j⁻}
6. n : {m..j⁻}
⊢  a[m..n] ∈ [T]Array{m..n⁻}  by Analyze 4 THEN AbSetMemEqTypeCD
|
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| 4. a : [T]Array
| 5. a.l = i & a.u = j
| 6. m : {i..j⁻}
| 7. n : {m..j⁻}
| ⊢  a[m..n] ∈ [T]Array
| | by Analyze 4 THEN Analyze 5 THEN Unfolds [‘array_seg‘;‘array‘] 0
| |
| 4. n1 : ℤ
| 5. m1 : {n1...}
| 6. a2 : {n1..m1⁻}→T
| 7. <n1,m1,a2>.l = i & <n1,m1,a2>.u = j
| 8. m : {i..j⁻}
| 9. n : {m..j⁻}
| ⊢  <m,n,2of(2of(<n1,m1,a2>))> ∈ n:ℤ×m:{n...}×{n..m⁻}→T
| | by OnClauses [7;0] AbReduce THEN Analyze 7
| |
| 7. n1 = i
| 8. m1 = j
| 9. m : {i..j⁻}
| 10. n : {m..j⁻}
| ⊢  <m,n,a2> ∈ n:ℤ×m:{n...}×{n..m⁻}→T  by Auto
|
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. .....set predicate .....
. 4. a : [T]Array
. 5. a.l = i & a.u = j
. 6. m : {i..j⁻}
. 7. n : {m..j⁻}
. ⊢  a[m..n].l = m & a[m..n].u = n
.   by Unfolds [‘array_seg‘;‘array_lb‘;‘array_ub‘] 0
.      THEN
.      Rewrite (DepthC (pi1_evalC ORELSEC pi2_evalC)) 0
END
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