

Anubis - Feature #36
File basis.anubis, new list sorter

04/17/2008 08:13 PM - SpiceGuid -

Status:New Priority:Low Assignee:Alain Prouté Category:Libraries Target version:1.x Platform: Resolution:	Start date: Due date: % Done:0% Estimated time:0.00 hour Triage Stage:
Description - (4.5) Quick sorting of lists.* The proposed sorter uses <i>merge-sort</i> for better space and time efficiency, it is also shorter than the <i>quick-sort</i> version. define (List(\$T),List(\$T)) split_even_odd (List(\$T) l, List(\$T) even, List(\$T) odd) = if l is { [] then (even,odd), [h0 . t0] then if t0 is { [] then ([h0.even],odd), [h1 . t1] then split_even_odd(t1,[h0.even],[h1.odd]) } } }. define List(\$T) merge_sorted (List(\$T) l1, List(\$T) l2, (\$T,\$T) -> Bool less) = if l1 is { [] then l2, [h1 . t1] then if l2 is { [] then l1, [h2 . t2] then if less(h1,h2) then [h1.merge_sorted(t1,l2,less)] else [h2.merge_sorted(l1,t2,less)] } } }	

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}.

public define List($T)
qsort
(
  List($T) l,
  ($T,$T) -> Bool less
) =
if l is
{
  [ ] then [ ],
  [ha . ta] then
    if ta is
    {
      [ ] then [ha],
      [hb . tb] then
        if tb is [ ] then
          if less(ha,hb) then l else [hb,ha]
        else
          with w = split_even_odd(l,[],[]),
          if w is (u,v) then
            merge_sorted(qsort(u,less),qsort(v,less),less)
    }
}
}.

```