

Ex 7.2-3. Not-quite-right solution. Find the error.

Recursion Invariant. For each call to `quicksort_r()` on the range $[start, stop)$, A is backward sorted on the range.

Proof. *By induction on the structure of the recursive calls to `quicksort_r()`.*

Initialization. *This is given, that is, that the initial array is backwards sorted.*

Maintenance. *Suppose the current subarray—the input to the call of `quicksort_r()` is backwards sorted.. The pivot will be the smallest element. This means the less-than-the-pivot section will be empty, and the greater-than-the-pivot section will have no exchanges and hence is still backwards-sorted. `quicksort_r()` will be called on that subarray.*