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CS200

Homework #15

Part #1:

* Replace variable “n” with variable “i” for loop invariant R. Also since array A is equal to the sub array A[0:n+1], we must also replace “n” with variable “i” here.
* Loop Invariant R: For all k in the range , A[k] holds the kth largest value in array A[0:i+1].

Part #2:

Part #3:

* While :

Part #4:

* i = i + 1

Part #5:

* The next part of the program would be taking the newly introduced number to the sub array with index “i” and iterating through the list to put it in the correct largest to smallest order. This way, the new sub array of while still hold the loop invariant where For all k in the range , A[k] holds the kth largest value in array A[0:i+1].