Dean Smith

CS200

Homework #14

1. #R: , x = A[b]
2. We can show P{i=0;j=n-1}R form a valid Hoare triple by first showing P -> P2 and P2 -> R. #P (paraphrased): A is an array in which the values are in increasing order is indexed 0 to n-1. For some b in the range , x = A[b]. #P2: i = 0, j = n – 1, x = A[b]. By substituting the conditions of P2 in for P, we get A is an array in which the values are in increasing order is indexed i to j. For some b in the range , x = A[b]. So P -> P2 holds. R: . P2 -> R holds because and x = A[b] is valid.
3. To show that R^(i=j) -> Q we must simplify R^(i=j). R^(i=j): i = b = j, x = A[b]. Therefore, since Q is x = A[j] and b = j, then x = A[b] as well and R^(i=j) -> Q holds.