COMP3121 Assignment1 - Q3

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Answer

First sort array A in O(nlogn) by merge sort. Then use binary search in A to find the
first element that less or equal to L; if it hits L, check if the preceding element is equal to
L; if it equals L, continue binary search until the first element equal to L is found. Then
use the same strategy to find the first element that is greater than U or the last element
equals to U. The difference of the two elements' index plus one is the result for a query.
As each binary search takes O(logn), the searching process takes O(nlogn) overall.