Write java code to implement the two methods below. For both methods, you may reuse / leverage code from the book / book site. You may not use hashing. Use the two files accompanying these instructions as a starter. You’ll need to write two methods: *sort()* and *valuesInCommon()*

1. Write a method that takes O(N) time and O(1) extra space to sort N keys that are two distinct values.
2. Given two arrays a[] and b[], containing M distinct integers and N distinct keys, respectively, (with N ≥ M), write a Java method to determine how many keys are in common between the two arrays. The running time of your algorithm should be proportional to N log M in the worst case and use at most a constant amount of extra memory.