Homework (Bonus)– Heapsort (60 points possible)

1) Write a generic heapsort method that takes an ArrayList of any type and an object that implements the Comparator interface, and returns a sorted ArrayList (20 points).

2) Write a runner for this method that reads in Strings (one per line) in a file and sorts them, using a Comparator class that ignores case, and provide me with some test data to test your program (10 points)

BONUS (10 points) : Write a JUnit tester for both the Comparator class and your Heapsorter that proves that both of these work as advertised.

BONUS (20 points) : Write a generic radix sorter that performs the same function on Strings (assuming the Strings are all the same length – the sorter MUST check that this is true or throw an exception)