Homework 4:

2. No comparison operator so they would have no way to compare the two Coords. You need to make comparison operator for Coord objects to have it work.

3b. This would not work as a single param constructor because you need to pass the parameter of the string down every time. Since the string is building off the previous string and you only have access to the current name, you need the second parameter to continue passing the vales.

4a. O(N^3) There are N loops for the ‘i’ and the comparisons made there times another N for the number of comparisons for the ‘j’ and then another N times number of loops for ‘k’.

4b. O(N^3) because for the first iteration you have N\*((0\*N) + (1\*N) + (2\*N) + … + (N\*N)) but you can pullout all those constants so you have N\*(N\*(0+1+2+…+N)) since they are all constants you have (N\*N) which is N^3 for the worst case.

5. The time complexity should be of order O(N^2) because every value is visited one time in the smaller array for a total of N visits. Because you need to first go through the smaller values and for every value check all values of res (bigger value) N times to see if it contains k. You then go through the values in the list another N times when you swap them. Since the final N is not dependent on the last loops you only have time complexity of N^2+N but the +N is not relevant when looking at order complexity so O(N^2) is the answer.