2. When we pass just one parameter into the insert function, it needs to compare it to other values in the linked list to find its position to insert. However, as for the coordinate object, it does not have an operator overloading of comparison sign, so it is impossible for the function to compare its value. Thus, it has a compilation error.

4b. If there is no second string parameter, it cannot be achieved since for current file there would be no way to know its preceding directory path. It can only be solved with recursion because it prints in a similar “depth-first” order. It has to reach the deepest directory in one file, after printing them all, then turn back to the level before.

5a. The time complexity is O(N3), because there are three loops nested together and each runs N times to its maximum.

5b. The time complexity is still O(N3), since the biggest of i could be N-1, which means that the second loop will still loop N times to its maximum and thus there are still three loops nested together and each runs N times to its maximum.

6a. The time complexity is O(N2). During the first for loop, it will loop N times. During each time, it uses get() function and insert() function each for twice. The complexities for these two functions are both O(N). So, the total complexity is N\*4N = 4N2. The second loop and the swap function will only add a first order constant. Therefore, the complexity is O(N2).

6b. The time complexity is O(N). In the first loop, it goes through all the nodes in two linked list until the smaller linked list is done. In our case, it runs N times. During each time, it calls the insertBefore() function twice, whose complexity is just a constant. The second loop just add the rest nodes in the other linked list. The finally swap() function’s complexity is also a constant. Therefore, the total complexity is O(N). It is better than a since the complexity is lower.