2. Explain some stuff

The insert method calls doInsertOrUpdate, which in turn calls the find method. The find method attempts to compare the key values with the given key value, and it can’t do that when Coord is a class without an equality or inequality operator definition (operator== or operator!=).

3.

a.

This algorithm is O(N^3) because it is a triply-nested for-loop where each loop traverses from 0 to N.

b.

This algorithm is still O(N^3) because the maximum value i can be is N-1 (so basically N), and it is still a triply-nested for-loop. N\*N\*N = N^3.

4.

a.

The time complexity of this is O(N^2) because iterating through m will take N times, and the maximum times insert will run is N times (since the most that will happen is that it iterates through the entire result map). They are nested, so we take N\*N to get O(N^2).

b.

The time complexity of this function is O(N) because it iterates through the map a single time (runs N times). Within the for loop, the time complexity is O(constant) which is O(1). So, it is O(N).