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Hw 4 questions

2. The program wont compile because the call to Set<Coord>::insert causes the program to attempt to use == operator to compare two Coord objects which it cannot do properly because we have not defined a way of properly comparing them as such.

4b. The function requires the label in the call so that we can output it each time it is called recursively

5a. O(n^3), because it performs 3 for loops, each one executes statements to increment the for loop N times.

5b. O(n^3), because it now has 2 for loops which increment through N times and one which increments through only i times, but because i goes up to N, it can be expressed as N-x, so the highest order will still be the same.

6a. O(n^2) in the worst case, the loop at the end of the function is executed N times, and the loop inside the get function is done N/2 times if the number is in the middle of the set.

6b. O(nlogn), the functions occur in line, the sort function has the highest time complexity, so we only count that towards big O

6c. O(n), there are 2 loops which run through the whole set, but they are in line, not embedded, so they each have big O n which we add together then drop the coefficient.