Analysis:

This program will require us to utilize data structures to store items of three different categories (that share some attributes, but also have differences) in a shopping cart. These categories, which extend from a general Item are Groceries, Electronics, and Clothing. The program will receive inputs, and based on if it is a correct input, the program will execute the instruction specified in the input file. The functions that will be executed include inserting items into the shopping cart, deleting them, updating their quantity, searching for them, and printing information about the shopping cart. The program should be able to tell when the input is not correct, or when an instruction cannot be executed. It should tell the user about the error, but not crash. For this program, ArrayLists, FileReaders, inheritance, polymorphism, and object oriented principles will need to be utilized to be successful.

Questions:

1. If an item has the same name as another item, do we combine them (e.g. if there’s an apple that costs 3.50 and another apple that costs 2.50 should we combine them?)?
2. When sorting in alphabetical order, what do we do about same letters but different cases (e.g. Apple, apple, and ApPlE)?

Assumptions:

1. Receiving anything other than the valid number of inputs for a given instruction invalidates that instruction (e.g. if an instruction is: “insert groceries apple 5.00 1 1 p hello” or “insert groceries apple” or “search”, etc. it is invalid).
2. Decimals are not allowed for quantity or weight, however a number can be followed by a decimal point and as many 0s and still be valid (e.g. 1.00000 and 1.0 are valid, but 1.01 and 1. are not valid).
3. No price values more than two decimal places in length are valid.