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# CMSC 115 Reading Guide

Please enter your responses in red.

# 7.5 Some Examples Skim

1. How is list functionality used to “solve” the anagram-detection problem? The list functionality is used to “solve” the anagram-detection problem by sorting the letters of the words into a list and checking if they are the same between words.
2. In the section on refactoring, what does it mean when they say:

return word1\_sorted == word2\_sorted When they say this line of code, they mean that they are checking if the two sorted word lists are the same and then returning a true or false value.

1. What strategy did they use to detect bad inputs and re-prompt the user? They set a Boolean sentinel just before the while loop to False and wrote the while loop based off that false value, and then used a try suite, and if an error was caught, then it will keep the Boolean value as false and continue the while loop.
2. What does their make\_unique() function do? The make\_unique() file makes a list of unique words and then finds the length of that list.

# 7.6 Mutable Objects Re-read

1. What is a *reference*? A reference is a variable name that references an object and type.
2. What kinds of confusion can happen when two variables reference the same mutable object? When two variables reference the same mutable object then the object is modified, then all variables that refence that object will reflect that change.
3. What is the difference between a shallow copy and a deep copy? A shallow copy is when only the references are copied and not the objects themselves. A deep copy will copy and object, even if it means it must follow a reference to find the object.

# 7.7 Tuples Read

1. What is a tuple? Why not just use a list? Tuples are essentially immutable lists and are used instead of lists to provide a data structure with some integrity and persistence.

# 7.8 Data Structures Read

1. In what ways can a particular implementation of a data structure be more or less *efficient*? The implementation of a data structure can be more efficient with respect to algorithms, space, and time. It is less efficient if you were to want to do something other than the specific task it was created for.

# 7.9 Algorithm Example Skim

1. How do they recommend extracting data from a comma separated file? They recommend extracting data from a comma separated file by using the csv module if the spreadsheet has commas within the fields.