Cloudwords Programming Excercise

Instructions

Please complete the following 3 exercises using Java as the programming language. You should expect to complete this in no more than 2-3 hours.

Please write your code in a manner you think suitable for a professional, production environment. As a general rule of thumb, we'd rather see two of the three exercises answered completely then all 3 partially answered.

When you've completed this exercise, please deliver all code in a sigle zip file but with the Java files divided into subfolders dedicated to each exercise. For example, the contents would look something like:

exercise1/JavaFile1.class
exercise1/JavaFile2.class
exercise2/JavaFile3.class
exercise2/JavaFile4.class
exercise3/JavaFile5.class

Each exercise should include a runnable "main" method that can successfully demonstrate the solved problem.

Good luck!

Exercise 1

Please write a program that can read the contents of any directory (and it's subdirectories) in the filesystem, and display the contents sorted in order of file size to System.out. The directory to search should be passed as a parameter to the "main" method of the program.

The output should show the full path of the file, the file name, and the file size.

Exercise 2

Please write a program that does the following:

1. A Producer class produces a randomly generated number
2. The Producer class stores this number into a DataStore class
3. A consumer class consumes a number from the DataStore class and displays it to System.out.

The program should run until the Producer produces 100 numbers. The Producer and Consumer should be running in parallel, in other words, the Consumer should be able to consume numbers before the Producer is done producing all 100 numbers.

Exercise 3

An anagram is a type of word play, the result of rearranging the letters of a word or phrase to produce a new word or phrase, using all the original letters exactly once. In other words, “cat” and “act” would be considered anagrams since they share the exact same letters-- just in different order. Whereas “act” would not be an anagram of “acts” because “acts” has an “s” and “act” does not.

Taking the the list of words below, output all word pairs that are “anagrams” of each other. Please display each anagram word pair to System.out.

Word List:
vase bat gods latte name apres spit joke ham dog act tale parse pits asper tab table mane late god cat table save spare