

COMP 182 Project 6: Sorting, Sorting, Sorting

(15 points)

Due: 20:00 Wednesday May 23, 2007

Overview: Imagine that you work for a company that sorts data: large sets of data, small sets of data, data sets that are mostly sorted, data sets that are mostly reverse sorted, data sets that are random, data sets with all sorts of patterns, data sets they know nothing about, data sets that they suspect have special properties, etc. Your boss has come to you and asked you to provide a report describing exactly when each sorting algorithm should be used. This report should include both “theoretical” and “empirical” explanations of your conclusions.

Requirements: First, you will write a page describing what you suspect is true including specific, testable hypotheses. You will then write a java project to test (support or refute) your hypotheses. Your program must cover at least 4 sorting techniques (more is strongly encouraged - in fact a project including only 4 algorithms is not likely to get full credit) including tree sort and heap sort (it would also be nice to include the java’s prewritten sort routine). You will then write at least one additional page describing and explaining your results.

Submission: When you finish (prior to the deadline), log in to WebCT, go into the Assign Submits area, and upload/submit only the java files and the ascii file. It would be a very good idea to submit the project at least several hours before the deadline (you can resubmit later if necessary). I suggest that when you submit, you request a confirmation email from the server. If you later want to claim the server lost your submission, I will want to see this email.

Grading: This assignment will be graded based upon both the quality of your program (structure, organization, coding style, exception handling, whether it compiles and runs properly, how well your program actually fulfills the goals your “boss” outlined for you, etc) and the degree to which your reported results shed light upon your hypotheses. Your results need not support your hypotheses. In fact, if they refute your one or more of your hypotheses (and you can explain the results) then you’ve learned something.