AP Computer Science Sorting Project
Mr. Lew
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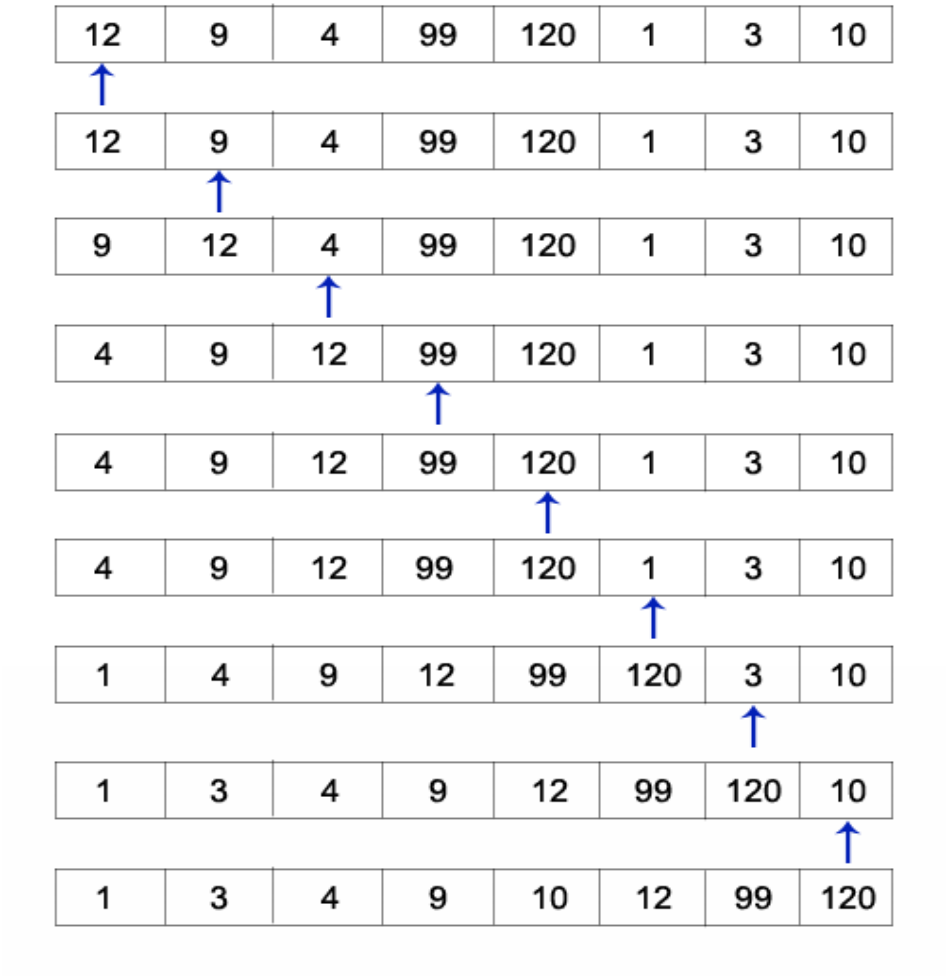
For this project you will be given a sorting and/or searching algorithm to analyze and explain to the class. On your presentation day you will present the following:

Powerpoint presentation (which will include the following slides)

a. "Description" slide – This slide describes the searching and/or sorting algorithm. This should be a qualitative description...no code yet. A "line-by-line comparison chart" should be presented to show the searching/sorting process and logic flow.



b. "Role Play" slide – This slide will introduce the role play. Each member will direct the sort at least once using the other members in the class as "data". Therefore if there are three persons in your group, person "A" will direct the sort, person "B" will direct a sort with a different set of data, and person "C" will direct a sort with another set of data (i.e. mixing up the people again). Each person will be graded according to his ability to explain the sorting routine by himself.

c. "Java code Demonstration" slide – Here you will demonstrate the searching and/or sorting algorithm in a small Java program that includes the following:
   i. include a "best case scenario" set of data (1000 integers) (hint: Math.random() to generate data)
   ii. include a "worst case scenario" set of data (1000 integers again)
   iii. for both "best-case" and "worst-case", include a timing mechanism to show the time needed to perform the sort (i.e. use System.currentTimeMillis();)
   iv. briefly discuss your code and how it reflects what you demonstrated in the role play

d. "Big-O" slide – This slide discusses of the "Big(0)" of the sort. Big(0) (pronounced "Big Oh") is a measure of a sorting routine's relative "speed". See the attached "Big(0) pdf which explains this is more detail (you can also find more information on Google).

e. "Advantages and disadvantages" slide – Here you discuss the advantages and disadvantages of the searching and/or sorting routine (when you might WANT to use it, and when you might NOT want use it. IMPORTANT slide…spend some time on this!!

f. "Memory issues" slide – discuss how much extra memory (if any) is needed in order to run your searching and/or sorting algorithm.