Pseudocode Menu

Main ()

DISPLAY loadDataStructure

SHOW printCourseList //Print in Alphanumerical order showing all courses in the CS department

DISPLAY printCourse //print course title, prerequisites for each of the courses

EXIT //Exit the program

SelectionSort(courseCode, courseName) {

code [ i ]

for ( i = 0; i < courseCode; ++i) {

if (courseName in alphabetical order);

}

}

printLine ( );

| **Code** | **Line Cost** | **# Times Executes** | **Total Cost** |
| --- | --- | --- | --- |
| **for all courses** | 1 | n | n |
| **if the course is the same as courseNumber** | 1 | n | n |
| **print out the course information** | 1 | 1 | 1 |
| **for each prerequisite of the course** | 1 | n | n |
| **print the prerequisite course information** | 1 | n | n |
| **Total Cost** | | | 4n + 1 |
| **Runtime** | | | O(n) |

**Advantages and Disadvantages**

The advantages of the Vector Data Structure Pseudocode are that they have a struct that clearly defines the three main categories of the pseudocode and an understandable loop that makes the code simpler to print. The disadvantage would be the long length of the pseudocode. An advantages of the Hash Table Data Structure Pseudocode is that it mimics a basic pseudocode, in return making it more easy to understand. Another advantage is that there are clear instructions to open, read, and parse each line. A disadvantage of this type of pseudocode would be the long length of the code. The advantages of the Tree Data Structure Pseudocode are, once again, the struct and the organized graph to go along with it. The disadvantage would be the need of more detail within the graph; Perhaps having a subgraph under this current one will explain more further detail!

**Recommendation**

Based on the Big O analysis of the three data structures, the data structure that I plan to use in my code would be the Tree Data Structure Pseudocode. I like the graph aspect of this pseudocode. For more details from within the pseudocode, I would not mind doing a sub-graph if need be.