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CSC300

Program 2 - Design

**Class Declarations**

Class CovidList

*private variables*

* Struct ListNode – holds data values and pointer to next node
  + string - Course name
  + int - Section number
  + int - Total students
  + int - Students with covid
  + int - Students recovered from covid
* ListNode \*head – points to the first list node address

*public variables*

* Constructors
  + Course() – the default constructor, sets head pointer to null, empty course
  + Course(string, int, int) – constructor accepting user parameters
    - students with covid = 0
    - students recovered = 0
* append(string course) – adds node to list sorted alphabetically
* increment(string course, int section) – increments covid total per course/section
* move(string course, int section) – decrements total students with covid, increments recovered students
* displayList() – displays the contents of the linked list

**Main**

int(main)

while(sentinel value not selected) {

displayMenu();

userMenuSelection(); //switch case

addCourse();

prompt user for info

if course does not exist, create & update info

else prompt then update existing course

incrementCovids();

displays switch case menu of course names and sections

increments covid case in selected course & section

decrementCovids();

displays switch case menu of course names and sections

decrements covid case in selected course & section

increments recoveredCovids

printList();

prints all information in table format

exit();

uses sentinel value to exit program

}