

Final Project

- A. Write your own name and that of your programming partner on the top of this page.
- B. Start a new project and package called FinalProject and set up your programs inside.
- C. **YOU MAY NOT CONSULT THE SIs for this project. NOR may you use the Internet, copy code from your classmates or anyone else, nor give away code to your classmates. NOR may you discuss concepts with your classmates. You may choose a programming partner with whom to work on this assignment. The design and coding MUST be done sitting together, and each partner must code half of the project while the other partner observes and checks. (Of course, all you need to do is send code to each other's machines if you use your own machines to code.)**
- D. This problem is designed to give you experience at creating arrays of objects and a custom constructor. Create two classes, a User Class that includes main and a StudentData class.

In main, create an array whose base type is StudentData. The array should have five elements. Fill the array with instances (objects) whose types are StudentData. The UML diagram for the class StudentData is described below:

```
StudentData
- firstName: String
- gender: char
- hometown: String
- level: int
- height: int {in inches}
~ getName(): String
~ getGender(): char
~ getHometown(): String
~ getHomeCountry(): String
~ getLevel(): int
~ getHeight(): int
~ setLevel( input myLevel: int )
```

To construct each object, use a constructor with no parameters. The instance members should be initialized using input from the user. To show that your program works, call each instance method at least once for three different objects, and call `getLevel()` after each call to `setLevel()`.

A user should be able to print any entry by providing its array index number.

A user should be able to look-up and find any entry by name. Once a name is found, the program should print the full entry. If the name is not among the entries, the program

E. You will need to fully document your work, including the following:

- a. The names of all authors,**
- b. The course name and your section(s),**
- c. The date that the project is due,**
- d. The title of the project and the purpose of the project,**
- e. The contract between the user and the program,**
- f. The purpose of all routines called, including main, and**
- g. The meaning of all other identifiers.**

F. Your deliverable is a hardcopy of your code by this Thursday, April 21, at 5:00 p.m. along with a hardcopy of one run. Points will be earned for the following:

The program works according to the above requirements – 50 points

The program is fully documented – 20 points

Choice of identifier names is meaningful

Other documentation

Cooperative work skills

– 15 points

Program style

– 15 points

The code is efficient, yet readable (including line spacing and indentation).

The code makes good use of variables, i.e., are values generalized, or are they hard coded, and is the code easy to modify?