CSI32 Lecture 21: Classes: inheritance, polymorphism, hierarchies, etc.

Drill

Do the Drill of Chapter 14

Review

1. Can you say that a derived class represents a more specialized group of objects?
2. How does an abstract class differ from a class that is not abstract?
3. What makes a class derived?
4. What is the difference between a **protected** member of a class and a **private** one?
5. What does overriding mean?
6. Research about pure virtual functions. How do they differ from other virtual functions?
7. Why would you make a member function virtual?
8. Why would you make a virtual member function pure?
9. Class D is a derived class from protected base class F. What can members of class D access from class F?
10. Give an example of has-a relationship.
11. Give an example of is-a relationship.
12. Review all examples we did in class.

Exercises:

1. Grab the two files from our class meeting: someClasses.h and inheritanceExamples.cpp

- add a public member function to class B that compares data members x and y, and returns true if x>y, and false otherwise (choose any name for this function).
- add a public member function to class B that compares data members y and z, and returns true if y<z, and false otherwise.
- In the main function: display the average of the data attributes x, y, z, n, and m of the object objB.

2. Define a `Group` to be a sequential container of `PersonInfo` with suitable operations applied to the members of the `Group` (for example, add a **PersonInfo** instance; find a record location of a person with a given name; remove a record from given location from the container; etc.)
hint: feel free to use built-in template vector class

3. exercise 16 from Chapter 14