Exercise #4 (No computers needed)

This week you will review some concepts introduced this week. In the group sessions you are encouraged to work in small groups to answer the questions.

(3 pts) Shallow copy:

What is a shallow copy? Why is it a problem? Provide an example (not in the slides or text) and explain how a copy constructor would prevent the problem.

(3 pts) Overloading the = operator:

Explain the circumstances where you would need to overload the assignment operator for a class. Is it just the shallow copy or are there other problems that it can prevent?

(2 pts) Destructor:

Under what circumstances is a destructor needed? Why? Explain at least one other situation where a destructor could be used.

(2 pts) Operator Overloading and inheritance:

Consider a class hierarchy. Under what circumstances would you need to overload the = operator for the parent and each derived class? Under what circumstances would you NOT need to overload the = operator for the parent and each derived class?