

HOMEWORK GOAL

This is an individual homework grade. The assignment is to add a clone operation and a copy constructor to a class that has mutable instance variables in it.

PROGRAM REQUIREMENTS

Add the **clone()** ability and a **copy constructor** to your Student class from assignment #4 (or start with my posted solution).

Add code to the main program to test your operations and make sure you are getting independent object data after the copies happen. You can test this by making copies of existing Student objects and adding more test grades to one of them. It should not change the other one.

**ADDITIONAL INFORMATION
TO TURN IN**

Zip up your project and upload it to canvas by the due date.

Also, use this exercise to think about using gets/sets with classes like this.

- What could happen to the state of an object if you were provide a get that simply returns a reference to the **numbers** instance variable?
- How would you handle it if you were using data types in your class that also contain internal mutable data? How do you ensure that those instances are handled properly.
- What if I wanted to pass in mutable objects into set methods? When Is it okay? When do I need to make a copy? What information should I put in my documentation for the users of my class?