

Fall '10 CIS 122 Final Project – 120/100 points possible – Due Friday, 12-3, 11:59 PM

Final projects must meet the following requirements:

1. [20] Two classes, each declared in a header file and implemented in a source file. For example, a Square class should be declared in Square.h and implemented in Square.cpp. Do not implement any functions in header files (i.e., just provide function prototypes).
2. [20] Each class should define at least two private data properties with public getter/setter (i.e., accessor/mutator) functions. The class constructor should take values for these properties as arguments and use these values to initialize the data properties.
3. [20] Each class should define at least one non-static function which operates on the data properties of the class.
4. [20] A Main.cpp with a main() function which tests your class implementations by creating instances of the classes and calling their functions.
5. [20] Add comments to each header file which describes the purpose of the class. Add comments to Main.cpp which describe how your code tests the implementations of your classes.
6. [+20] Implement a third class which is related to your other two classes. The class should satisfy the above requirements for a class.

Either design your own project or use the following example:

A Position class with x, y, and z properties of type double. The constructor should have the signature:

```
Position(double, double, double);
```

The Position class should include a function with signature:

```
double distance(const Position&);
```

which calculates and returns the distance between this Position and the argument Position.

A Line class with p1 and p2 properties of type Position. The constructor should have the signature:

```
Line(const Position&, const Position&);
```

The Line class should include a function with signature:

```
double length();
```

which calculates and returns the length of this Line.

Zip your .h and .cpp files, name your .zip file <your full name>FinalProject.zip, and upload to Blackboard.