

CS12 SI LAB8

Problem 1: write a base class of your choosing

Write a class of your choosing to use as a base class for deriving 3 other classes from. (For example, a shape class that you can derive classes for circle, square and triangle from.) Try and be creative with your choices.

// Name your files for this problem *username_base.h* and *username_base.cpp*

Problem 2: Derive 3 classes from your base class using inheritance

Use polymorphism to derive 3 classes from your original base class. You must have at least 3 new functions for each class. You can spread your classes out across 3 individual file pairs or you can just use a single .h and .cpp file for the three of them combined.

// Name your files for this problem *username_inherit[n].h* and *username_inherit[n].cpp*

// Note: replace [n] with a number

Problem 3: Write a main code block to demo your classes functionality.

Write a main.cpp that tests the functionality of your classes. Make sure that everything functions properly and that your classes behave as specified. Implement a menu that will allow the user to properly test the functionality of everything. Try and be creative here and maybe make something useful!

// Name your file for this problem *username_main.cpp*

Problem 3: Makefile!!

Write a makefile named Makefile that compiles your program. It should first compile a .o for each class and then compile the main program linking in the .o files. Also add a clean target so that you don't get your workspace all cluttered.

Submission:

To turn in this lab first make sure that all of your .cpp files are in the same directory. Then run `tar -czvf username_lab8.tar username* Makefile`

This should create a file called *username_lab8.tar* which you should upload to the given link.

<https://script.google.com/macros/s/AKfycbyP8hS2kZBU4ncfKF4XUNucTzn5La9fMx5RSEq1IunRc26jiaC9/exec>

Note: Once you finish, demo your work to your SI leader if you wish to leave early.