

## CS12 SI LAB9

### **Problem 1: recursive fibonacci function**

Write a recursive function that takes one parameter N and returns the Nth fibonacci term. Next write a main function that tests this function for multiple values of N.

// Name your file for this problem *username\_fibonacci.cpp*

### **Problem 2: general purpose recurrence relation function**

Write a recursive function that takes 3 arguments; F0, F1 and N. F0 and F1 are the first two terms of your relation. Your function should return the Nth term of the given recurrence relation. Write a main function that tests your function for proper functionality using different combinations of F0, F1 and N.

// Name your file for this problem *username\_recurrance.cpp*

### **Problem 3: practice using copy constructors and assignment operators**

Write a basic class for something that you are interested in (For example: professional athletes). Your class should contain at least one dynamically allocated array and should contain fields for data that represent your object. Write a copy constructor for your class as well as an assignment operator and don't forget the destructor! Next write a main function that tests the functionality of your copy constructor and assignment operator.

// Name your file for this problem *username\_construct.cpp*

### **Problem 4: Makefile!!**

Write a makefile named Makefile that compiles all of your programs. 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\_lab9.tar* which you should upload to the given link.

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