

## CS 162 LAB #3 – Practice Classes

In order to get credit for the lab, you need to be checked off by the end of lab. You can earn a maximum of 5 points for lab work completed outside of lab time, **but you must finish the lab before the next lab and get checked off with your Instructor or TAs during their office hours**. For extenuating circumstances, contact your TAs and the instructor.

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This lab is worth 10 points total. Here's the breakdown:

- 5 points: Implement one class with constructors, accessors, and mutators
  - 2 points: Design the class composition
  - 1 point: add "const" when appropriate
  - 2 point: create makefile
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In Assignment 2, you need to create `Card`, `Deck`, `Hand`, `Player`, and `Game` classes. Seems a lot, right? But don't worry, this lab serves to get you a head start on it!

### **(5 pt) Step 1: Create .h and .cpp files with constructors, accessors, and mutators for one class**

Start working on the .h and .cpp files for one of the classes with the appropriate members (all being private), mutator functions, accessor functions, and constructors.

\*Note: In real life, we create mutators and accessors only if we need them, but to give you more practices, let's create a mutator and accessor for each member of the class in this assignment.

For example, **here are some prototypes for the default constructor, mutators, accessors, and some other useful functions for the `Card` class to get you started.**

```
Card();  
  
void set_rank(int);  
  
int get_rank();  
  
void set_suit(int);  
  
int get_suit();  
  
string map_suit();  
  
string map_rank();  
  
void print_card();
```

### **(2 pts) Step 2: Class Composition**

Now, let's figure out how classes interact with each other. On a sheet of paper, write down the relationship between classes involved in this assignment (i.e. Deck "has-a" Card). Besides, explain how you are going to implement the "has-a" relationship.

### **(1 pts) Step 3: Add “const”**

Add `const` in the appropriate places for all classes.

### **(2 pts) Step 4: Create `makefile`**

Create a Makefile that compiles all of your `.cpp` files and makes an executable.

**Remember, you will not receive lab credit if you do not get checked off** before leaving each lab. Once you have a zero on a lab, then it cannot be changed because we have no way of knowing if you were there or not.

**Show your completed work and answers to the Instructor or the TAs for credit. You will not get points if you do not get checked off!**

Submit your work to TEACH for our records **(Note: you will not get points if you don't get checked off with your instructor or a TA!!!)**

1. Create a **tar archive** that contains all files you've created in this lab:
2. Transfer the tar file from the ENGR server to your local laptop.
3. Go to [TEACH](#).
4. In the menu on the right side, go to **Class Tools → Submit Assignment**.
5. Select **CS162 Lab3** from the list of assignments and click **“SUBMIT NOW”**
6. Select your files and click the Submit button.