**Edward Greathouse**

**Lab Reports**

Labs are designed to require more synthesis of the programming concepts than typical assignments. For this reason, they are more complicated, so are given more credit.

For each Lab, create a one-page (or so) write-up in a Microsoft Word document named *yourusername*-L#.doc that includes the following sections:

* **INITIAL DESIGN PLAN**:

Create a deck as an object of the class “Card”

create each card by implementing two “for” loops (one for the rank and one for the suit)

call the print function to print the entire array

call a function, not of the class, to shuffle the deck

call the print function again to show that the deck has been shuffled

take input from the user for the number of cards to be distributed to each of the 4 players

display what cards each player has

done

* **SUMMARY**:
* We used one Class named Card in order to run the program. To store the playing card suit and playing card rank we used two different enumeration types that are both globally defined and private member variables. First we output the deck in order starting with Clubs, Diamonds, Hearts and then Spades. We did this by making two get functions for getting the rank of a card and the suit then printed it with our print function. The print function uses a switch with different cases depending on rank and suit. Then we wrote a Random Number Generator function that would output random numbers between 0-51. This rank and suit of this number then is outputted. Then we have the user input how many cards they want shuffled out to 4 players. In main the user inputs the number and then for each player the number entered is multiplied by the number of player to output how many number of cards. This number of cards is then output randomly.
* **IMPLEMENTATIONS**:
* Using a class
* Random Number Generator
* Outputting Arrays
* Using more than one obect
* Using get functions to output rank/suit
* Enumeration Types
* Overloading constructors
* Using Accessor Functions
* Using Mutator Functions
* **TESTING**:
* The bug we had to debug our program in the beginning because our code would crash every time.
* **FILES**:
* Greathousee-connc-L5
* **ERRORS**:
* if the user enters a number greater than 13, an error will occur

**COMMENTS**:

This lab was the most challenging lab to be completed. It was difficult to understand how to create multiple objects in a class, and store each object in the array. Once the objects were stored in the array, it was difficult to understand how to use the objects (for example, shuffling). After working diligently on this lab, I am more than pleased with the outcome of the program.