

Assignment 5 – Bridge Hands

Date assigned: Friday, March 20, 2009

Part 1 due: Friday, April 3, 2009

Part 2 due: Friday, April 10, 2009

Points: 45pts (15pts for part 1, 30pts for part 2)

For this assignment you are to use the principles of object-oriented programming to program four hands in the game of Bridge. There are 52 cards in a deck, and each of the four players in a game of bridge receives 13 cards. Hence, all of the deck is dealt to the four players.

Your program is to ask for the names of the players, then display every player's hand. Your output must look like the following, but of course the distribution of cards will be different:

```
Enter the name of player 1: Homer
Enter the name of player 2: Bart
Enter the name of player 3: Maggie
Enter the name of player 4: Lisa

Homer:
6♣ 4♥ 2♥ Q♣ 5♥ 10♠ 3♠ 4♦ 10♣ 5♦ J♣ 3♥ J♦
Bart:
6♣ 2♣ 9♦ 10♦ 8♠ J♥ Q♥ A♠ Q♦ 9♣ 4♠ 3♣ 2♠
Maggie:
7♠ K♠ 4♣ 5♣ K♣ 7♥ A♥ K♥ 8♦ 10♥ 7♦ 5♠ A♦
Lisa:
Q♣ 9♠ J♠ A♣ K♦ 3♦ 6♥ 8♣ 8♥ 7♣ 2♦ 9♥ 6♦
```

Unlike in previous assignments, I will not be giving you the class interfaces. It is up to you to design the classes that you should use, and what will be contained in each class. Since this is the first time that you have designed classes on your own, I am having the design of these classes due to me a week before the final assignment so that I can look at it and provide you with feedback before you move on.

Goals for Assignment 5:

1. Get experience in designing your own classes.
2. Use the C++ coding standards Version 5 with your object-oriented code.
3. Use the .h/.cpp separate file design for defining and implementing classes.
4. Implement at most one constructor or function at a time and make sure to extensively test the constructor or function before going on. I promise you that on this assignment if you write too much code you will have extreme difficulties getting the code to compile and run.

Notes:

- Your program must use at least three well-designed classes.
- If you have any questions, please see me or Jeff early.
- You must follow version 5 of the coding standards.

Hints:

- Test everything as you go along.
- Address one issue at a time. For example, address how you are going to represent a card, then output a card. Next address how you are going to represent the deck and output the complete deck to ensure that every card is unique. Next, address how you are going to shuffle the deck, and display the deck to make sure that the deck is shuffled.
- To display ♣♦♠♥ use the ASCII values (3, 4, 5, 6).
- Design your classes in such a way that they can be used for different card games in the future.
- Don't place any jokers in your deck!

What to Submit for Part 1

- For part 1 you must design the interfaces for your classes. By this, I mean that you must complete the .h files showing your classes, constructors, public and private data members, and public and private member functions.
- Document each member function with a comment describing what it does.
- Include all arguments and return values for your functions
- Submit a hard copy of your class interfaces (stapled!) by 9:15am on the day that it is due.
- I do not want an electronic copy.

What to Submit for Part 2

- For part 2 you must complete the program so that four hands of bridge are dealt. Your output must look exactly like the one above.
- Save your project as 05BridgePUNet. So as an example, mine would be 05Bridgekhoy0332.
- Your code is to be written using Visual Studio and placed in the CS250 Drop Box by 9:15am on the day in which the assignment is due. A stapled hard copy must be placed on the instructor's desk before 9:15am on the day the assignment is due.

Press any key to continue . . .