

CS11 Programming Assignment # 6 due Friday 5 Nov. 1999

Poker Advice

Last week in class we went over the *poker.ide* project, which consisted of the files *card.h*, *card.cpp* and *poker.cpp*. This program evaluated a poker hand. In this assignment you will extend the program, modifying it to tell the user what the player is one card away from. In a real poker game, players may have the option to discard one or more cards, hoping to improve the hand. In this assignment we will be simulating the situation where the user is planning to discard just one card. Your program will tell the user which card should be traded away.

The purpose of this program is to give you some hands-on experience with object-oriented programming. You will be modifying an existing class, and using several of its member functions to solve a problem.

In class I will tell you where you can download the three files needed for this project. You will not be creating any new files, but you will need to modify these three. Specifically, you should do the following:

1. Create a new member function in the card class called *name()*. This will be a void function that prints the denomination and suit of a particular card, as in "six of clubs". The implementation of this function should have two switch statements, one for the denomination, and one for the suit.
2. In *poker.cpp*, you will have eight new functions that test to see if the poker hand is just one card away. The logic of these functions will be similar to that of the existing functions testing the current rank of the hand. The new functions you will write are:
 - a. *almost_straight_flush*
 - b. *almost_four_of_kind*
 - c. *almost_full_house*
 - d. *almost_flush*
 - e. *almost_straight*
 - f. *almost_three_of_kind*
 - g. *almost_two_pair*
 - h. *almost_one_pair*
3. In the output, make sure in each case that the program tells the user which type of hand (e.g. flush) the user's hand is close to, and also which card should be discarded to make the better hand possible. Note that the player may have more than one option as to what kind of hand to shoot for. See the example I/O on the next page.
4. When you turn in your program, make sure your disk contains all 3 files that you modified. You should also print all three files for your hard-copy submission.

Example I/O:

```
*****  
*           Welcome to Poker Advice           *  
* You tell me what you have in your hand, and I *  
* will tell you which card to discard.         *  
*****
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Please enter your 5 cards in your poker hand,
in descending order of denomination. Use one character
for each denomination and suit (e.g. T-d for ten of diamonds).

8-h 8-c 6-h 3-h 2-h

Your hand is a one-pair.
You almost have a flush. Discard the eight of clubs.
You almost have a three of a kind. Discard the six of hearts.
You almost have a two-pair. Discard the two of hearts.