

Lab 7: Broken Blackjack



Objectives:

- To learn why a consistent code writing style is important
- To practice writing functions
- To practice maintaining code

The Game of Blackjack:

You will be completing the functions needed to play a simplified version of blackjack. Blackjack is a card game in which the goal is to get as close to or equal to 21 without going over. Card values are as follows: Aces will always count 11 points, and face cards (jack, queen, king) will always count 10. Other cards will count face value (2-9). In our version, we will not worry about duplicate cards being played in the game.

The user and the computer will be dealt two cards which will be displayed for the user. The user will then have the opportunity to be dealt one more card. Once the user's card is dealt, the computer may draw one more card as well. Then both hands are totaled. The winner is the player with the highest score that is less than or equal to 21.

Problem Statement:

This assignment is a little different from normal. A copy of the working program will be passed out during lab. This copy must be turned in before you leave the classroom. You'll be stepping through the code to find out how it works. You'll also be answering questions about the code.

The program that is passed out is a blackjack game. You'll need to step through it, making sure that the program follows the correct logic for a game of blackjack, and that the syntax and format for everything is correct.

As you step through the code, keep these questions in mind since you'll need to answer them as part of your lab report.

What does the program do? Yeah, it plays a game, but what are the rules of the game?

Are these good variable names? If so, why? If not, why not? Give examples of better ones.

Did the programmer make good use of whitespace? If so, how is it good? If not, what's wrong with it? How would you fix it?

Could the program be simplified? If so, how? Give specific examples.

Could the program be shortened? If so, how? Give specific examples.

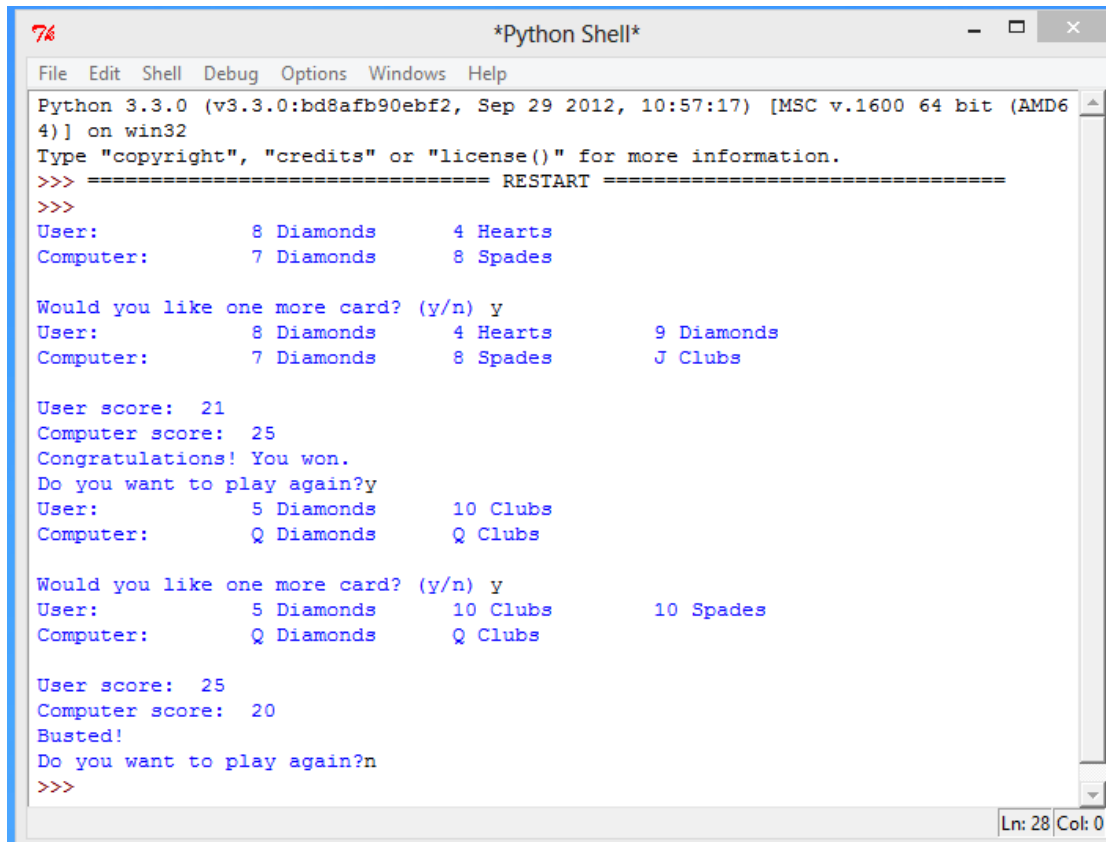
How would using functions be of benefit in this program? Think of at least 2 different functions that could be written and used with this program.

Once you've stepped through the code and answered the questions above, re-write the code with correct syntax and much better formatting.

Program Requirements:

- Use the correct comment block.
- Use a good code layout, good use of whitespace
- Functions for repeated code & at least 1 module
- A complete program so that you may test the game

Sample Execution:



```
Python 3.3.0 (v3.3.0:bd8afb90ebf2, Sep 29 2012, 10:57:17) [MSC v.1600 64 bit (AMD64)] on win32
Type "copyright", "credits" or "license()" for more information.
>>> ===== RESTART =====
>>>
User:           8 Diamonds      4 Hearts
Computer:       7 Diamonds      8 Spades

Would you like one more card? (y/n) y
User:           8 Diamonds      4 Hearts      9 Diamonds
Computer:       7 Diamonds      8 Spades      J Clubs

User score:  21
Computer score:  25
Congratulations! You won.
Do you want to play again?y
User:           5 Diamonds      10 Clubs
Computer:       Q Diamonds      Q Clubs

Would you like one more card? (y/n) y
User:           5 Diamonds      10 Clubs      10 Spades
Computer:       Q Diamonds      Q Clubs

User score:  25
Computer score:  20
Busted!
Do you want to play again?n
>>>
```

Deliverables:

Lab Report sections required:

- Title Page
- Questions about Program
- Sample Execution
- Analysis and Conclusions

Submit files and lab report according to TA instructions

Grading:

Task	Points
Report	70
Title Page, Sample Execution, Analysis & Conclusions	30
Questions About Program	40
Good layout for code & use of whitespace	10
Use of functions and a module	10
Complete working program	10