

Lab10

Blackjack

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## 1 .problem statement

In the previous lab, we created an object chip representing playing CARDS and a deck of CARDS. In this lab, we're going to use the objects that we built before. You and your partner will choose to create the solution in casino night lab to import your old code. It does not matter which one is used if both solutions satisfy the required specification. In a new file, a class will be created to store the game's 21 points and support functions. At the end of this lab, you will have a simple text demo of the game blackjack.

## 2.Planning

We must read through the rule of blackjack, step by step through the game of two hands. Be sure to be as detailed as possible. Record the shuffle time, draw, add to hand, where decisions are made, and what are the criteria for those decisions which is made by.

Then we need to design our function and know the value of return. First we will create a class for storing our hand in

blackjack, so we can easily figure out how much our hand is worth, or display it to the screen. It includes `__init__()`, `add_card(new_card)`, `__str__()` and `get_value()`. Second we create second class called Blackjack. The blackjack class is used to represent the blackjack game. This object can be thought of as a blackjack table, where there's a series of hand CARDS selected from one or more hands. It includes `__init__(starting_dollars)`, `draw()`, `start_hand(wager)`, `hit()`, `stand()`, `end_hand(outcome)` and `game_active()`. Finally, we need to use test code to check our code.

### 3. Apply the procedure

There are two choices "STAND or HIT: ". If choice == "STAND", it will be into blackjack. `stand ( )`. If choice == "HIT", it will be into blackjack. `hit ( )`. The outcome is like the following running.

```
Python 3.7.2 Shell
File Edit Shell Debug Options Window Help
Python 3.7.2 (tags/v3.7.2:9a3ffc0492, Dec 23 2018, 22:20:52) [MSC v.1916 32 bit
(Intel)] on win32
Type "help", "copyright", "credits" or "license()" for more information.
>>>
===== RESTART: C:\Users\97111\Downloads\qy28_yz346_126-03_Lab-10.py =====
Your remaining chips: 2 blacks, 2 greens, 0 reds, 0 blues - totaling $250
How much would you like to wager? 23
You: 5 of Clubs, 4 of Hearts
Dealer: <facedown>, 8 of Spades
STAND or HIT: stand
Dealer: 5 of Hearts, 8 of Spades
Dealer's new card: 9 of Diamonds
Dealer: 5 of Hearts, 8 of Spades, 9 of Diamonds
You win.

Your remaining chips: 2 blacks, 2 greens, 4 reds, 3 blues - totaling $273
How much would you like to wager? 78
You: 9 of Spades, 6 of Clubs
Dealer: <facedown>, Jack of Hearts
STAND or HIT: hit
New Card: 7 of Diamonds
You: 9 of Spades, 6 of Clubs, 7 of Diamonds
You lose

Your remaining chips: 1 blacks, 3 greens, 4 reds, 0 blues - totaling $195
How much would you like to wager? 195
You: King of Clubs, 3 of Diamonds
Dealer: <facedown>, 9 of Clubs
STAND or HIT: stand
Dealer: 10 of Hearts, 9 of Clubs
You lose

Out of money! The casino wins!
>>> |
```

Ln: 33 Col: 4

There are PEP8 code online.

## PEP8 online

Check your code for PEP8 requirements

## All right

Save Share

## Your code

```
1 # Qian Yu, Ying Zhang
2 # qy28, yz346
3 # CS126L-03
4 # Lab 10 - Blackjack
5
6 import random
7
8
9 class Card:
10     '''
11     Header for the class Card.
12     Any new card objects which are created will use
13     Card(card_num) method, which
14     a suit, rank, and value will be used to create
15     card objects. Cards start from
```

Check again

## 4. Reflection and Refactoring

Testing is necessary in the whole procedure. It can help us

know whether the whole procedure can run. Only passing the whole testing, we can more safely use it. Aside from testing, specific requirement is also important before we start to write a procedure. Sometimes we ignore value of return. It leads wrong statistics.