

FOOP HW2- POOCasino: Jacks or Better

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- Outline:
 1. Introduction
 2. How to play with my program
 3. How I tested the correctness of my program
 4. The output from three rounds of the game

1. Introduction:

“Jacks or Better” is a single-player video poker game. At first, the player will be asked to enter his name and will be given 1000 P-dollars. Then, in each round:

- a. The computer opens a new desk and shuffle it.
- b. The player chooses how much to bet (1~5 P dollars).
- c. The computer then distributes 5 cards from the desk to the player.
- d. The player can choose to keep 0~5 cards on hand. Then the other cards would be discarded and replace with the new cards from the shuffled desk.
- e. The computer then determines the best hand to describe the final 5 cards.
- f. The computer then pays the user payoff P-dollars, determined by the P-dollars bet by the user and the payoff table.

2. How to play with my program?

- a. Open your command line.
- b. **\$make all** in the game directory.
- c. **\$make run** in the game directory.
- d. The game starts, just the follow the instructions on the command line window to play the game.

3. Structure and cooperation of the classes

- Main class- POOCasino: Call the computer class to start the game, play every round of game, and stop when the game is over.

```
4 public class P00Casino{
5     public static void main(String argv[]){
6         Computer casinoComputer = new Computer();
7         casinoComputer.startGame();
8         while(casinoComputer.isGameOver() != true){
9             casinoComputer.playOneRound();
10            casinoComputer.round++;
11        }
12    }
13 }
```

- Computer class: The computer class have to maintain the game status & the player (in this game) status, start/play/stop the game, and the most important job is to communicate with the player.

```
15 class Computer{
16     int round;
17     Player player;
18
19     Computer(){
20         round = 1;
21     }
22
23     void startGame(){
30     }
31
32     void playOneRound(){
69     }
71     int countHandPayOff(int betMoney, List<Card> hand){
168     }
169
170     int askKeepCards(){
203     }
204
205     void GameOver(){
208     }
209
210     boolean isGameOver(){
217     }
218 }
```

- Player class: The class contains the player status, what cards does he have, and also some methods manipulating cards in hand.

```
226 class Player{
227     String name;
228     int money;
229     List<Card> cardsInHand = new ArrayList<Card>();
230
231     Player(String playerName){
234     }
235
236     void getCard(int value){
239     }
240
241     void discardCard(int index){
244     }
246     void sortHand(){
252     }
253
254     void showHand(){
262     }
263
264     void showNewHand(){
273     }
274
275     void clearHand(){
279     }
280 }
```

- Card class: The card class contains the status of one card, including card value in several forms (integer: 0~51, 0~13, string such as “C10” “SA”)

```

286 class Card{
287     int valueOfCard;
288     int intValue;
289     String card = "";
290
291     Card(int value){
292     }
293
294     private String ValueToSuitValue(){
295     }
296 }

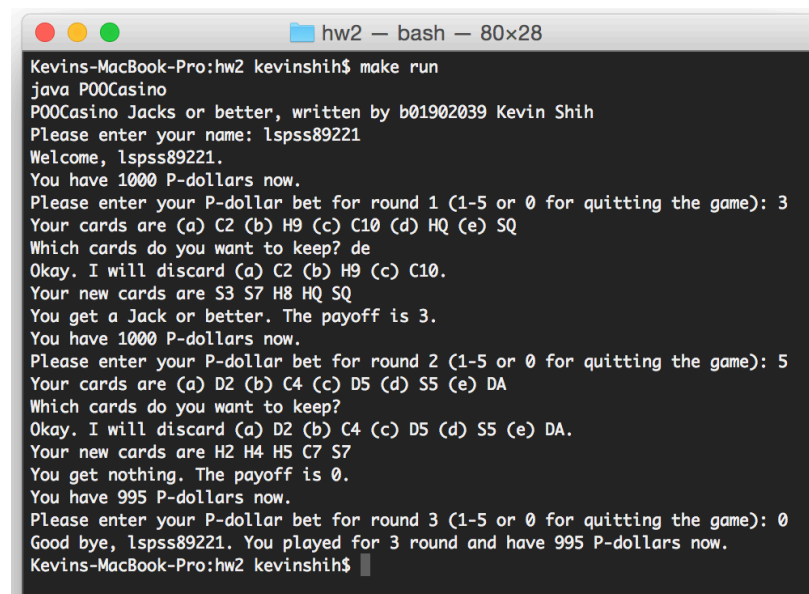
```

- Shuffler class: I use the class provide by TAs.

4. How I tested my program?

Since I followed the structure from the homework spec, the only parts that needed to be tested are “desk-shuffling” and “how to determine the best hand to describe the final 5 words”. In the latter, I modified the code to give the player various kinds of cards including those I considered critical. After a few rounds of testing, there’s no mistakes anymore. And in desk-shuffling I use the shuffler provided by TAs, and the result of it seems really random after I tried to print hundred lines of desks.

5. The output of 3 rounds of my program:



```

Kevins-MacBook-Pro:hw2 kevinshih$ make run
java P00Casino
P00Casino Jacks or better, written by b01902039 Kevin Shih
Please enter your name: lspss89221
Welcome, lspss89221.
You have 1000 P-dollars now.
Please enter your P-dollar bet for round 1 (1-5 or 0 for quitting the game): 3
Your cards are (a) C2 (b) H9 (c) C10 (d) HQ (e) SQ
Which cards do you want to keep? de
Okay. I will discard (a) C2 (b) H9 (c) C10.
Your new cards are S3 S7 H8 HQ SQ
You get a Jack or better. The payoff is 3.
You have 1000 P-dollars now.
Please enter your P-dollar bet for round 2 (1-5 or 0 for quitting the game): 5
Your cards are (a) D2 (b) C4 (c) D5 (d) S5 (e) DA
Which cards do you want to keep?
Okay. I will discard (a) D2 (b) C4 (c) D5 (d) S5 (e) DA.
Your new cards are H2 H4 H5 C7 S7
You get nothing. The payoff is 0.
You have 995 P-dollars now.
Please enter your P-dollar bet for round 3 (1-5 or 0 for quitting the game): 0
Good bye, lspss89221. You played for 3 round and have 995 P-dollars now.
Kevins-MacBook-Pro:hw2 kevinshih$

```