

FOOP HW4 Report

B01902135 高滿馨

A. Player's Strategy

Buy Insurance- If player's open card is also an ACE, then he don't buy, otherwise he will buy.

Do double and Hit - Reference from <http://wizardofodds.com/games/blackjack/strategy/1-deck/>

Split- Reference from <http://wizardofodds.com/games/blackjack/strategy/1-deck/>

Single-Deck, Dealer Hits on Soft 17											
Your hand	Dealer's card										
	2	3	4	5	6	7	8	9	10	A	
4-7	H	H	H	H	H	H	H	H	H	H	
8	H	H	H	Dh	Dh	H	H	H	H	H	
9	Dh	Dh	Dh	Dh	Dh	H	H	H	H	H	
10	Dh	Dh	Dh	Dh	Dh	Dh	Dh	Dh	H	H	
11	Dh	Dh	Dh	Dh	Dh	Dh	Dh	Dh	Dh	Dh	
12	H	H	S	S	S	H	H	H	H	H	
13	S	S	S	S	S	H	H	H	H	H	
14	S	S	S	S	S	H	H	H	H	H	
15	S	S	S	S	S	H	H	H	H	Rh	
16	S	S	S	S	S	H	H	H	Rh	Rh	
17	S	S	S	S	S	S	S	S	S	Rs	
18+	S	S	S	S	S	S	S	S	S	S	
Soft	2	3	4	5	6	7	8	9	10	A	
13	H	H	Dh	Dh	Dh	H	H	H	H	H	
14	H	H	Dh	Dh	Dh	H	H	H	H	H	
15	H	H	Dh	Dh	Dh	H	H	H	H	H	
16	H	H	Dh	Dh	Dh	H	H	H	H	H	
17	Dh	Dh	Dh	Dh	Dh	H	H	H	H	H	
18	S	Ds	Ds	Ds	Ds	S	S	H	H	H	
19	S	S	S	S	Ds	S	S	S	S	S	
20+	S	S	S	S	S	S	S	S	S	S	

Splits											
	2	3	4	5	6	7	8	9	10	A	
2,2	Ph	P	P	P	P	P	H	H	H	H	
3,3	Ph	Ph	P	P	P	P	Ph	H	H	H	
4,4	H	H	Ph	Pd	Pd	H	H	H	H	H	
6,6	P	P	P	P	P	Ph	H	H	H	H	
7,7	P	P	P	P	P	P	Ph	H	Rs	Rh	
8,8	P	P	P	P	P	P	P	P	P	P	
9,9	P	P	P	P	P	S	P	P	S	Ps	
A,A	P	P	P	P	P	P	P	P	P	P	

www.wizardofodds.com

Do Surrender- Always don't surrender

Make Bet- Random a number form 0 to half number of my current chips. If my current chips < 2, then make bet 1.

B. Class Design

I have two private classes (PlayerStatus, Player_inform) in POOCasino.java and two public classes (Dealer and Shuffler).

PlayerStatus and Player_inform are designed as an data structure for POOCasino. In POOCasino, there are three major data structures.

ArrayList<Player> -> Store all 'alive' player.
ArrayList<Player_inform> -> Store one deck of card, and note the id of the owner of the card.
ArrayList<PlayerStatus> -> Store 'all' player, note if they is still alive or which round they dead.

I also add Dealer.java, store the dealer's handCard and some information. I wrote a new class because I think many method in class Player are not suit for dealer.
Class Shuffler handle shuffle cards, assign cards...etc.

C. Result

(4 round, 10 chips each player)

Player 0 remain 10.0
Player 1 remain 10.0 chips
Player 2 remain 10.0
Player 3 remain 10.0 chips
4 Players this Round
Player 0 make bet = 3
Player 1 make bet = 5
Player 2 make bet = 1
Player 3 make bet = 5
Player 0 remain 7.0
Player 1 remain 5.0 chips
Player 2 remain 9.0
Player 3 remain 5.0 chips

Dealer:

1 3

3 3

Player 0

1 8

2 9

Player 1

2 4

4 13

Player 2

1 2

4 7

Player 3

4 8

4 10

Player 2 do double

Dealer's Card:

1 3

3 3

2 1

3 12

value = 17

Player 0

1 8

2 9

value = 17

Player 1

2 4

4 13

value = 14

Player 2

1 2

4 7

3 4

value = 13

Player 3

4 8

4 10

value = 18

Push, get bet back!

Player 1 lose Dealer

Player 2 lose Dealer

Player 3 win Dealer

Finish Round 0

.....(too long)

Remain 4 Players

Player 0 remain 20.0

Player 1 remain 4.0 chips

Player 2 remain 6.0

Player 3 remain 11.0 chips

4 Players this Round

Player 0 make bet = 4

Player 1 make bet = 2

Player 2 make bet = 2

Player 3 make bet = 5

Player 0 remain 16.0

Player 1 remain 2.0 chips

Player 2 remain 4.0

Player 3 remain 6.0 chips

Dealer:

2 5

2 11

Player 0

1 2

4 1

Player 1

1 11

2 13

Player 2

3 1

```
1 4
Player 3
3 11
2 10
Player 0 do double
Player 2 do double
Dealer's Card:
2 5
2 11
4 12
value = 25
*****

Player 0
1 2
4 1
2 9
value = 12
-----
*****

Player 1
1 11
2 13
value = 20
-----
*****

Player 2
3 1
1 4
4 4
value = 19
-----
*****

Player 3
3 11
2 10
value = 20
-----
*****

Dealer is busted
Dealer is busted
Dealer is busted
Dealer is busted
Finish Round 3
Remain 4 Players
Player 0 remain 28.0
Player 1 remain 6.0 chips
Player 2 remain 10.0
Player 3 remain 16.0 chips
4 Players this Round
Player 0 remain 28.0
Player 1 remain 6.0 chips
Player 2 remain 10.0
Player 3 remain 16.0 chips
```

Experience: I don't have much problems when duel with other Player, only the path error, but it is easy to handle. I think it is fun to duel with other Players, and by using other Players, some coding problem which I don't handle well. By the way, my Player do find some code problems of my friends XDD But it is a little irritating that if you want to add some public method, you should tell your partner first so that your code can run well there.

D. Bonus

If the Player dead, you can know which round the player dead.

```
Player 0 remain 3.0  
Player 1 dead at Round 3  
Player 2 remain 1.0  
Player 3 remain 3.0 chips
```