Foop Homework3 Report

Name and ID

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Compile and Run

- Compile: **make**
- Run: **make run**
- Clear: **make clean**

FrameWork

Cards.java

- Recorgnize the Strings of the cards, which are stored as Integers in the program

Player.java

- Implement the player of the game
- Include some actions associated with a player in the game
- Maintain the information of the cards on the player's hand

OldMaid.java

- Implement the OldMaid game
- Include how the OldMaid starts, how the players get cards and some other rules
- It is the super class of VariantOne and VariantTwo

VariantOne.java

- Implement the VariantOne game
- Almost the same as OldMaid, but it overwrites the rule to deal cards
- It is a child class from OldMaid

VariantTwo.java

- Implement the VariantTwo game
- Almost the same as OldMaid, but it overwrites the rule to deal cards
- It is a child class from OldMaid

PlayGame.java

- Include the main function
- Run the 3 games above when the process starts

How to Play

Old Maid

This is the original version. There are **54** cards in the game. (**13** cards for each suit and **2** cards represeting the ghosts) The players take turns to draw a random card from the next player. If one of the players has **2** cards with same number (*2* to *A*) on his hand, he can drop the cards. The one who drops all the cards becomes the winner. However, the only person having cards (*R0* and *B0*) on hand at the end of the game is the loser.

Varient One

Ths is one of te varients from **Old Maid**. There are still **54** cards in this game, but the **2** extra cards are not B0 and R0. Instead, we put only one ghost (*B0*) into the card deck, followed by another *S8*. Thus, the card deck contains **5** cards of number **8** (*C8*, *D8*, *H8*, *S8*, *S8*) and **1** ghost (*B0*). The other rules are the same as **Old Maid.**

Varient Two

Ths is another varient from **Old Maid**. There are only **51** cards in this game, since we remove **1** card (*SA*) from the traditional deck. Thus, the card deck contains only **3** cards of number A (*CA*, *DA*, *HA*). The other rules are the same as **Old Maid**.

Test of Correctness

The output of the program is the process of the **3** games. By reading the output message, I am able to ckeck if there exists any error.

Sample Input/Output

```
Origin Version
Deal cards
Player0: C3 D4 C5 D6 H6 S6 H8 C9 C10 CJ HJ HK CA HA
Player1: C2 D2 S2 D3 C4 H4 S5 C6 C7 D7 C8 D8 SQ SK
Player2: R0 H2 S4 H5 S8 D10 H10 S10 SJ CQ DQ DK DA
Player3: B0 H3 S3 D5 H7 S7 D9 H9 S9 DJ HQ CK SA
Drop cards
Player0: C3 D4 C5 S6 H8 C9 C10 HK
Player1: S2 D3 S5 C6 SQ SK
Player2: R0 H2 S4 H5 S8 S10 SJ DK DA
Player3: B0 D5 S9 DJ HQ CK SA
Game start
Player0 draws a card from Player1 C6
Player0: C3 D4 C5 H8 C9 C10 HK
Player1: S2 D3 S5 SQ SK
...
Player3 draws a card from Player0 SK
Player3: B0 SQ SK
Player0:
Player0 wins
Basic game over
Continue
...
Player2 draws a card from Player3 SK
```

```
Player2: R0 B0
Player3:
Player3 wins
Bonus game over
Variant One
Deal cards
Player0: C2 D2 C3 D3 H3 D5 H5 S5 S6 D8 H8 C10 D10 H10
Player1: C4 H4 C5 C6 C7 S7 C9 H9 S9 SJ SQ CA DA HA
Player2: B0 S2 S3 H6 H7 S8 S8 D9 S10 DK HK SK SA
Player3: H2 D4 S4 D6 D7 C8 CJ DJ HJ CQ DQ HQ CK
Drop cards
Player0: H3 S5 S6 H10
Player1: C5 C6 S9 SJ SQ HA
Player2: B0 S2 S3 H6 H7 D9 S10 SK SA
Player3: H2 D6 D7 C8 HJ HQ CK
Game start
Player0 draws a card from Player1 HA
Player0: H3 S5 S6 H10 HA
Player1: C5 C6 S9 SJ SQ
...
Player3 draws a card from Player0 H10
Player3: C8 H10 HJ
Player0:
Player0 wins
Basic game over
Continue
...
Player3 draws a card from Player1 SJ
Player3:
Player1: B0 C8
Player3 wins
Bonus game over
Variant Two
Deal cards
Player0: C2 D3 H3 S3 C4 H5 D6 C7 H7 D8 H8 S9
Player1: H2 S2 S4 S5 C8 C9 H9 C10 S10 SJ HQ CK DA
Player2: D2 D4 C5 D5 S6 S7 S8 H10 DJ DQ SQ HK CA
Player3: C3 H4 C6 H6 D7 D9 D10 CJ HJ CQ DK SK HA
Drop cards
Player0: C2 S3 C4 H5 D6 S9
Player1: S4 S5 C8 SJ HQ CK DA
Player2: D2 D4 S6 S7 S8 H10 DJ HK CA
Player3: C3 H4 D7 D9 D10 CQ HA
Game start
Player0 draws a card from Player1 S4
Player0: C2 S3 H5 D6 S9
Player1: S5 C8 SJ HQ CK DA
...
Player2 draws a card from Player3 DA
Player2: C2 HQ DA
Player3:
Player3 wins
Basic game over
Continue
...
Player2 draws a card from Player0 D2
Player2:
```

```
Player0: DA
Player2 wins
Bonus game over
```

Bonus

I did not implement any extra features. However, I foncus on making my source code readable(for example, putting some comments and annotation), which I consider as the key point in this homework.