

CS 246 Final Project Straights

Demo

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The Options of Running the Program

To run our program, first use Makefile to generate the executive. Then, the program can be run in the following 2 options:

1. Starting without the given random seed:

```
zj4li@ubuntu2004-002:~/cs246/f21/FinalProject$ ./straights
```

This option will automatically generate a random seed by time and the program will use it to shuffle the deck at the beginning of each round.

2. Starting with a given random seed:

```
zj4li@ubuntu2004-002:~/cs246/f21/FinalProject$ ./straights 0
```

This will use 0 as the seed it to shuffle the deck at the beginning of each round. Users can for other integer as a seed for the game.

Note: The information in the following text is the use of the random seed 0.

The Commands of the Game

1. Game Player Set Up

The following commands will create four players with type: h (human) / c (computer)

```
zj4li@ubuntu2004-002:~/cs246/f21/FinalProject$ ./straights 0
Is Player1 a human (h) or a computer (c)?
h
Is Player2 a human (h) or a computer (c)?
c
Is Player3 a human (h) or a computer (c)?
h
Is Player4 a human (h) or a computer (c)?
c
```

2. Play a Card

The following command is a player to play a legal card

Example: play 9S

```
Player1's turn:
Your hand: 9H 8C TH 2H JD 9D TD 6C 9S 4H 6H AH
Legal plays 9S
Please enter a command. (Available commands: deck, play <card>, discard <card>, ragequit, quit)
play 9S
Player1 plays 9S
```

When a player didn't play a legal card or a valid card, it will display the following

The first red arrow represents the player plays a card is not in his hand.

Example: play LO

The second red arrow represents the player plays a card is not legal.

Example: Play 4C

```
Player3's turn:
Your hand: KH 4C 6D JH 8D 2D AC 7H QS AD 3D 4S
Legal plays 7H 4S
Please enter a command. (Available commands: deck, play <card>, discard <card>, ragequit, quit)
play LO
This is not a legal play
Please re-enter a command. (Available commands: deck, play <card>, discard <card>, ragequit, quit)
play 4C
This is not a legal play
Please re-enter a command. (Available commands: deck, play <card>, discard <card>, ragequit, quit)
█
```

3. Discard a Card

The following is a player discard a card when he has no legal plays

Example: discard 2C

```
A new round begins. It's Player4's turn to play.

Player4's turn:
Player4(Computer) plays 7S

Cards on the table:
Clubs:
Diamonds:
Hearts:
Spades: 7

Player1's turn:
Your hand: 9H 8C TH 2H JD 9D 2C TD 6C 9S 4H 6H AH
Legal plays
Please enter a command. (Available commands: deck, play <card>, discard <card>, ragequit, quit)
discard 2C
Player1 discards 2C
```

The following is a player discard a card when he has legal plays

Example: discard 4C

```
Player3's turn:
Your hand: KH 4C 6D JH 8D 2D 6S AC 7H QS AD 3D 4S
Legal plays 6S 7H
Please enter a command. (Available commands: deck, play <card>, discard <card>, ragequit, quit)
discard 4C
You have a legal play. You may not discard.
Please re-enter a command. (Available commands: deck, play <card>, discard <card>, ragequit, quit)
█
```

4. Displaying the Deck

The following is the command that can display the card distributions for 4 players

Example: Deck

```
Player1's turn:
Your hand: 9H 8C TH 2H JD 9D TD 6C 4H 6H AH
Legal plays 6H
Please enter a command. (Available commands: deck, play <card>, discard <card>, ragequit, quit)
deck
9H 8C TH 2H JD 9D 2C TD 6C 9S 4H 6H AH
8S TC 5S 8H JC AS 3H 7D 2S 9C KD TS 7C
KH 4C 6D JH 8D 2D 6S AC 7H QS AD 3D 4S
4D 5H KC 3C QH 7S KS 5C 5D 3S QD QC JS
Please enter a command. (Available commands: deck, play <card>, discard <card>, ragequit, quit)
█
```

5. Ragequit and Quit

The following is a player quitted the game and let the computer player take over.

Example: ragequit

```
Player1's turn:
Your hand: 9H 8C TH 2H JD 9D TD 6C 4H 6H AH
Legal plays 6H
Please enter a command. (Available commands: deck, play <card>, discard <card>, ragequit, quit)
deck
9H 8C TH 2H JD 9D 2C TD 6C 9S 4H 6H AH
8S TC 5S 8H JC AS 3H 7D 2S 9C KD TS 7C
KH 4C 6D JH 8D 2D 6S AC 7H QS AD 3D 4S
4D 5H KC 3C QH 7S KS 5C 5D 3S QD QC JS
Please enter a command. (Available commands: deck, play <card>, discard <card>, ragequit, quit)
ragequit
Player1 ragequits. A computer will now take over.
Player1(Computer) plays 6H
```

The following is a player quitted the game and does not let the computer player take over.

Example: quit

```
Player1's turn:
Your hand: 9H 8C TH 2H JD 9D 2C TD 6C 9S 4H 6H AH
Legal plays:
Please enter a command. (Available commands: deck, play <card>, discard <card>, ragequit, quit)
quit
Player1 quit, the game is over! If you want to play again, please restart the game.
```

6. Invalid Command

The following is a player entered a command that is not one of the commands as described above.

Example: momg130t6302

```
Player3's turn:
Your hand: KH 4C 6D JH 8D 2D AC QS AD 3D 4S
Legal plays 4S
Please enter a command. (Available commands: deck, play <card>, discard <card>, ragequit, quit)
momg130t6302
The command is invalid, please re-enter a command. (Available commands: deck, play <card>, discard <card>, ragequit, quit)
```

Other Information in the Game

1. Computer Player's move

When it's computer player's turn, the computer player will automatically play/discard a card.

```
Player4's turn:
Player4(Computer) discards TC

Player1's turn:
Player1(Computer) plays 9C
```

2. Round Summary

When all players have no card in hand, then a round will be ended, and the round summary will be printed out.

If there is no player has score equal or greater than 80, then a new round will begin and it's the turn of the player who has 7S in hand.

```
This is the end of the current round, the following is the summary of the round:
Player1's discards: 9H 8C TH 2H 2C 4H AH
Player1's score: 0 + 36 = 36
Player2's discards: TC JC 3H 9C
Player2's score: 0 + 33 = 33
Player3's discards: KH 4C JH 2D AC AD 3D
Player3's score: 0 + 35 = 35
Player4's discards: 4D 5H KC 3C QH QC
Player4's score: 0 + 49 = 49
```

```
A new round begins. It's Player4's turn to play.
```

Otherwise, the game is over. The winner(s) will be the player(s) that have the lowest scores.

```
This is the end of the current round, the following is the summary of the round:
Player1's discards: 2D AC
Player1's score: 74 + 3 = 77
Player2's discards: QC
Player2's score: 47 + 12 = 59
Player3's discards: 9D JC QD
Player3's score: 35 + 32 = 67
Player4's discards: AD 2H TD AH 2C KC JD TC KD
Player4's score: 61 + 63 = 124

Player2 wins!
```