

## *Demonstration of Straights Program*

Before we run through the demo of the straights game, the basic commands of this program are outlined in the table below. These are the commands the straights program will be working with. When there is something to comment on in the game progression, it will be denoted by \*\* and the comment to the right of it. **Note:** the ... represents game progression. Without further ado, let's play a game! Hope you have fun!

Command	Description
play <card>	<p>Play the specified card. You may assume that the &lt;card&gt; has valid syntax (i.e., &lt;rank&gt;&lt;suit&gt;, such as 7C), and that the specified card is in the player's hand. However, it might not be a legal play.</p> <p>If the play is legal, print:</p> <p>Player&lt;x&gt; plays &lt;card&gt;.</p> <p>and proceed to the next player. Otherwise, print:</p> <p>This is not a legal play.</p> <p>&gt;</p> <p>and do not proceed to the next player until a legal play is made.</p>
discard <card>	<p>If the player has no legal plays, discard the specified card from the player's hand into the player's discard pile. Again, assume that the &lt;card&gt; has valid syntax and that the &lt;card&gt; is in the player's hand. For test purposes, the value of the card is printed even though that deviates from the normal straights game play.</p> <p>Player &lt;x&gt; discards &lt;card&gt;.</p> <p>Otherwise, print the following error message:</p> <p>You have a legal play. You may not discard.</p> <p>&gt;</p>
deck	<p>Print the contents of the deck in order, 13 cards per line. For example:</p> <p>TS 2D 3S KH 3H 2C 5D TC 8S TD AC KC QH 4D JH 6H JC KD BC 7D TH 4H 9S 6S 4S KS 7S 7C QD 6C 2H 6D 3C 9C 5H 3D AD 5S 8H QC 2S BD JS QS AS JD 4C 7H 9D 5C AH 9H</p> <p>&gt;</p> <p>(This command is not part of the straights game. It is provided to help both you and us with the testing and debugging of your program.)</p>
quit	Terminate the program immediately.
ragequit	<p>Filled with anger, a human player decides to leave! Print the following message:</p> <p>Player &lt;x&gt; ragequits. A computer will now take over.</p> <p>Replace the current human player with a computer player, and resume the game.</p>

## Sample Demo of the Straights Program

Inithian@ubuntu2004-014:~/cs246/f21/projectStraights\$ ./straights 2

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)

> c

Is Player4 a human (h) or a computer (c)

> c

A new round begins. It's Player1's turn to play.

Cards on the table:

Clubs:

Diamonds:

Hearts:

Spades:

Your Hand: 7S 5H QS 4H JC KH 4D 6C 6S 3S 8H 7H AC

Legal plays: 7S

**\*\*Note the only legal play is a 7S, player with the 7S starts first then follows normal order until player4 then it goes back to player1.**

> play 7S

Player 1 plays 7S.

Cards on the table:

Clubs:

Diamonds:

Hearts:

Spades: 7S

Your Hand: 8C QH 2D 4S KC 7C TH 6D JD 9S 5C 2H TC

Legal plays: 7C

Player 2 plays 7C.

Cards on the table:

Clubs: 7C

Diamonds:

Hearts:

Spades: 7S

Your Hand: 6H 8D JH 3H AH 5D 4C TS 2S 2C AD KD KS

Legal plays:

Player 3 discards 6H

Cards on the table:

Clubs: 7C

Diamonds:

Hearts:

Spades: 7S

Your Hand: 3C 8S QC QD 9D AS 9H JS 9C 7D TD 5S 3D

Legal plays: 8S 7D

Player 4 plays 8S.

Cards on the table:

Clubs: 7C

Diamonds:

Hearts:

Spades: 7S 8S

Your Hand: 5H QS 4H JC KH 4D 6C 6S 3S 8H 7H AC

Legal plays: 6C 6S 7H

> deck

7S 5H QS 4H JC KH 4D 6C 6S 3S 8H 7H AC 8C QH 2D 4S KC 7C TH 6D JD 9S 5C 2H  
TC 6H 8D JH 3H AH 5D 4C TS 2S 2C AD KD KS 3C 8S QC QD 9D AS 9H JS 9C 7D TD  
5S 3D

**\*\* The deck command prints the entire deck**

> discard 8S

You have a legal play. You may not discard.

**\*\* You can see that the Human player will not be able to discard when they have a legal play in their hand.**

> play 6C

Player 1 plays 6C.

Cards on the table:

Clubs: 6C 7C

Diamonds:

Hearts:

Spades: 7S 8S

Your Hand: 8C QH 2D 4S KC TH 6D JD 9S 5C 2H TC

Legal plays: 8C 9S 5C

Player 2 plays 8C.

Cards on the table:

Clubs: 6C 7C 8C

Diamonds:

Hearts:

Spades: 7S 8S

Your Hand: 8D JH 3H AH 5D 4C TS 2S 2C AD KD KS

Legal plays:

Player 3 discards 8D

Cards on the table:

Clubs: 6C 7C 8C

Diamonds:

Hearts:

Spades: 7S 8S

Your Hand: 3C QC QD 9D AS 9H JS 9C 7D TD 5S 3D

Legal plays: 9C 7D

Player 4 plays 9C.

Cards on the table:

Clubs: 6C 7C 8C 9C

Diamonds:

Hearts:

Spades: 7S 8S

Your Hand: 5H QS 4H JC KH 4D 6S 3S 8H 7H AC

Legal plays: 6S 7H

> play 4D

This is not a legal play.

**\*\* Demonstrates that you must play a legal play otherwise the message above will be printed**

> play 6S

Player 1 plays 6S.

Cards on the table:

Clubs: 6C 7C 8C 9C

Diamonds:

Hearts:

Spades: 6S 7S 8S

Your Hand: QH 2D 4S KC TH 6D JD 9S 5C 2H TC

Legal plays: 9S 5C TC

Player 2 plays 9S.

Cards on the table:

Clubs: 6C 7C 8C 9C

Diamonds:

Hearts:

Spades: 6S 7S 8S 9S

Your Hand: JH 3H AH 5D 4C TS 2S 2C AD KD KS

Legal plays: TS

Player 3 plays TS.

Cards on the table:

Clubs: 6C 7C 8C 9C

Diamonds:

Hearts:

Spades: 6S 7S 8S 9S TS

Your Hand: 3C QC QD 9D AS 9H JS 7D TD 5S 3D

Legal plays: JS 7D 5S

Player 4 plays JS.

Cards on the table:

Clubs: 6C 7C 8C 9C

Diamonds:

Hearts:

Spades: 6S 7S 8S 9S TS JS

Your Hand: 5H QS 4H JC KH 4D 3S 8H 7H AC

Legal plays: QS 7H

> play 7h

It seems like you do not have 7h in your hand. You can only play a card that belongs in your hand.

This is not a legal play.

**\*\*When you play an invalid card it is considered illegal**

> ragequit

Player1 ragequits. A computer will now take over.

Cards on the table:

Clubs: 6C 7C 8C 9C

Diamonds:

Hearts:

Spades: 6S 7S 8S 9S TS JS

Your Hand: 5H QS 4H JC KH 4D 3S 8H 7H AC

Legal plays: QS 7H

Player 1 plays QS.

**\*\*Human player1 has ragequit and the turn is given to the Computer that takes over the human**

Cards on the table:

Clubs: 6C 7C 8C 9C

Diamonds:

Hearts:

Spades: 6S 7S 8S 9S TS JS QS

Your Hand: QH 2D 4S KC TH 6D JD 5C 2H TC

Legal plays: 5C TC

Player 2 plays 5C.

Cards on the table:

Clubs: 5C 6C 7C 8C 9C

Diamonds:

Hearts:

Spades: 6S 7S 8S 9S TS JS QS

Your Hand: JH 3H AH 5D 4C 2S 2C AD KD KS

Legal plays: 4C KS

Player 3 plays 4C.

Cards on the table:

Clubs: 4C 5C 6C 7C 8C 9C

Diamonds:

Hearts:

Spades: 6S 7S 8S 9S TS JS QS

Your Hand: 3C QC QD 9D AS 9H 7D TD 5S 3D

Legal plays: 3C 7D 5S

Player 4 plays 3C.

Cards on the table:

Clubs: 3C 4C 5C 6C 7C 8C 9C

Diamonds:

Hearts:

Spades: 6S 7S 8S 9S TS JS QS

Your Hand: 5H 4H JC KH 4D 3S 8H 7H AC

Legal plays: 8H 7H 7H

Player 1 plays 8H.

...

Cards on the table:

Clubs: AC 2C 3C 4C 5C 6C 7C 8C 9C TC JC

Diamonds: AD 2D 3D 4D 5D 6D 7D

Hearts: AH 2H 3H 4H 5H 8H

Spades: AS 2S 3S 4S 5S 6S 7S 8S 9S TS JS QS KS

Your Hand: TD

Legal plays:

Player 4 discards TD

Player1's discards: KH 7H

Player1's score: 0 + 20

Player2's discards: QH KC TH JD

Player2's score: 0 + 46

Player3's discards: 6H 8D JH KD

Player3's score: 0 + 38

Player4's discards: QC QD 9D 9H TD

Player4's score: 0 + 52

**\*\* Scores are calculated and the round is ended**

A new round begins. It's Player1's turn to play.

Cards on the table:

Clubs:

Diamonds:

Hearts:

Spades:

Your Hand: 9H AH 5S 3H 8H KS 4S KH AS QC TS 4C 7S

Legal plays: 7S

Player 1 plays 7S.

**\*\*New round begins**

...

...

Cards on the table:

Clubs: 2C 3C 4C 5C 6C 7C 8C 9C

Diamonds: 2D 3D 4D 5D 6D 7D 8D 9D TD JD

Hearts: 3H 4H 5H 6H 7H 8H 9H TH JH QH

Spades: AS 2S 3S 4S 5S 6S 7S 8S 9S TS JS QS KS

Your Hand: QD

Legal plays: QD

Player 1 plays QD.

Player1's discards:

Player1's score:  $20 + 0$

Player2's discards: KH TC KD 2H JC QC

Player2's score:  $71 + 61$

Player3's discards: KC AD AC AH

Player3's score:  $56 + 16$

Player4's discards:

Player4's score:  $63 + 0$

Player1 wins!

**\*\* A player finally accumulates 80 or more points, the lowest score is Player1 and they are the winner of the game**

**\*\*Game ends**

### *Sample Seed for Multiple Winners*

./straights 6

Is Player1 a human (h) or a computer (c)

> c

Is Player2 a human (h) or a computer (c)

> c

Is Player3 a human (h) or a computer (c)

> c

Is Player4 a human (h) or a computer (c)

> c

...

Player1's discards: 4D 8C

Player1's score:  $40 + 12$

Player2's discards: 8D TD 9D

Player2's score:  $25 + 27$

Player3's discards: JH AS QH 5D KD QC TC

Player3's score:  $12 + 64$

Player4's discards: KH AH KC QD JC

Player4's score:  $36 + 50$

Player1 wins!

Player2 wins!

**Note:** the ... represents game progression.