

This demo will use two human players and two computer players to demonstrate all of the possible outcomes of the program.

Execute the program with seed 25 passed in as an argument followed by human player, computer player, human player, and computer player:

`./straights 25`

```
a49zhao@ubuntu2004-014:~/cs246/f21/straights$ ./straights 25
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
A new round begins. It's Player4's turn to play.
Cards on the table:
Clubs:
Diamonds:
Hearts:
Spades:
Your hand: 9H QC TH 5H KS 3D KD 5S 8S 4S 7S TC 8D
Legal plays: 7S
Player4 plays 7S.
Cards on the table:
Clubs:
Diamonds:
Hearts:
Spades: 7
Your hand: 3C AC KC 7C AD JC AS TS QS 3H 2C 9C 9S
Legal plays: 7C
```

Since Player4 is a computer player and it is the starting player, it automatically plays 7S. Now, it is player1's turn. The only legal play is 7C.

Run the command : `play 7C`

```
play 7C
Player1 plays 7C.
Cards on the table:
Clubs: 7
Diamonds:
Hearts:
Spades: 7
Your hand: 5C 2D JD 6H 2S 4C QD 5D JH 4H 8H 7D QH
Legal plays: 7D
Player2 plays 7D.
Cards on the table:
Clubs: 7
Diamonds: 7
Hearts:
Spades: 7
Your hand: KH JS 2H TD 9D 4D 6S AH 6D 8C 6C 7H 3S
Legal plays: 6S 6D 8C 6C 7H
```

Since Player2 is a computer player, it automatically plays the first card that is legal in their hand. Now, it is Player3's turn, which is a human. We will test out other commands.

Run the command: `deck`

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

This prints out the contents of the deck in order, 13 cards per line.

Run the command: [discard JS](#)

```
[discard JS
You have a legal play. You may not discard.
```

Since the player has legal plays, the player cannot discard a card and receives this message.

Run the command: [play TD](#)

```
[play TD
This is not a legal play.
```

Since TD is not a legal play, the player cannot play that card and receives this message.

Run the command: [play 8C](#)

```
[play 8C
Player3 plays 8C.
Cards on the table:
Clubs: 7 8
Diamonds: 7
Hearts:
Spades: 7
Your hand: 9H QC TH 5H KS 3D KD 5S 8S 4S TC 8D
Legal plays: 8S 8D
Player4 plays 8S.
Cards on the table:
Clubs: 7 8
Diamonds: 7
Hearts:
Spades: 7 8
Your hand: 3C AC KC AD JC AS TS QS 3H 2C 9C 9S
Legal plays: 9C 9S
```

Since 8C is a legal play, Player 3 plays 8C.

Run the command: [play 9S](#)

```

play 9S
Player1 plays 9S.
Cards on the table:
Clubs: 7 8
Diamonds: 7
Hearts:
Spades: 7 8 9
Your hand: 5C 2D JD 6H 2S 4C QD 5D JH 4H 8H QH
Legal plays:
Player2 discards 5C.
Cards on the table:
Clubs: 7 8
Diamonds: 7
Hearts:
Spades: 7 8 9
Your hand: KH JS 2H TD 9D 4D 6S AH 6D 6C 7H 3S
Legal plays: 6S 6D 6C 7H

```

Run the command: [play 7H](#)

```

play 7H
Player3 plays 7H.
Cards on the table:
Clubs: 7 8
Diamonds: 7
Hearts: 7
Spades: 7 8 9
Your hand: 9H QC TH 5H KS 3D KD 5S 4S TC 8D
Legal plays: 8D
Player4 plays 8D.
Cards on the table:
Clubs: 7 8
Diamonds: 7 8
Hearts: 7
Spades: 7 8 9
Your hand: 3C AC KC AD JC AS TS QS 3H 2C 9C
Legal plays: TS 9C

```

Play 1 is angry.

Run the command: [ragequit](#)

```

ragequit
Player1 ragequits. A computer will now take over.
Player1 plays TS.
Cards on the table:
Clubs: 7 8
Diamonds: 7 8
Hearts: 7
Spades: 7 8 9 10
Your hand: 2D JD 6H 2S 4C QD 5D JH 4H 8H QH
Legal plays: 6H 8H
Player2 plays 6H.
Cards on the table:
Clubs: 7 8
Diamonds: 7 8
Hearts: 6 7
Spades: 7 8 9 10
Your hand: KH JS 2H TD 9D 4D 6S AH 6D 6C 3S
Legal plays: JS 9D 6S 6D 6C

```

Player 1 is replaced by a computer player now.

Run the commands:

[play JS](#)

[play 9D](#)

[play 2H](#)

[play TD](#)

play 6S
play AH
play 6D
play 4D
play KH
play 6C
play 3S

```
play 3S
Player3 plays 3S.
Cards on the table:
Clubs: 6 7 8 9 10
Diamonds: 3 4 5 6 7 8 9 10 11 12 13
Hearts: 1 2 3 4 5 6 7 8 9 10 11 12 13
Spades: 3 4 5 6 7 8 9 10 11 12 13
Player1's discards: 3C AC KC AD JC AS 2C
Player1's score: 0 + 32 = 32
Player2's discards: 5C 2D 2S 4C
Player2's score: 0 + 13 = 13
Player3's discards:
Player3's score: 0 + 0 = 0
Player4's discards: QC
Player4's score: 0 + 12 = 12
A new round begins. It's Player4's turn to play.
Cards on the table:
Clubs:
Diamonds:
Hearts:
Spades:
Your hand: KH JH 9D 5S 6S QH 3D 2H 7S TC AS 9S 5H
Legal plays: 7S
Player4 plays 7S.
```

play 6D
play 6H
play 5D
play 3S
play 9H
play KD
play 8S
play 2S
discard 4C

```
discard 4C
Player3 discards 4C.
Cards on the table:
Clubs: 7 8 9 10
Diamonds: 2 3 4 5 6 7 8 9 10 11 12 13
Hearts: 3 4 5 6 7 8 9 10 11 12 13
Spades: 2 3 4 5 6 7 8
Your hand: 2H TC AS 9S
Legal plays: 2H AS 9S
Player4 plays 2H.
```

discard QS

```
Cards on the table:
Clubs: 7 8 9
Diamonds: 2 3 4 5 6 7 8 9 10 11 12 13
Hearts: 2 3 4 5 6 7 8 9 10 11 12 13
Spades: 2 3 4 5 6 7 8
Your hand: QS TS QC AH
Legal plays: AH
discard QS
You have a legal play. You may not discard.
```

Since the player has a legal play, they may not discard and they receive this message.

play AH

ragequit

```
Player1's discards: 2D
Player1's score: 87 + 2 = 89
Player2's discards: QH KH 3D
Player2's score: 54 + 28 = 82
Player3's discards:
Player3's score: 27 + 0 = 27
Player4's discards: AD
Player4's score: 12 + 1 = 13
Player4 wins!
```

Since all players are now computers, the game plays automatically and no longer takes in standard input. The game ends with Player4 winning, and the program is terminated.

Now, run the program again with commands:

./straights 40

c

c

c

c

```
Player1's discards: 5H AH 3H
Player1's score: 39 + 9 = 48
Player2's discards: JH 9H 3D 4H QH
Player2's score: 4 + 39 = 43
Player3's discards: JS 2H AD KS
Player3's score: 16 + 27 = 43
Player4's discards: TH QS KH 2D
Player4's score: 57 + 37 = 94
Player2 wins!
Player3 wins!
a49zhao@ubuntu2004-014:~/cs246/f21/straights$
```

In this case, there are two winners.

Finally, execute the program again with commands:

./straights 25

h

h

h

h

quit

```

a49zhao@ubuntu2004-014:~/cs246/f21/straights$ ./straights 25
Is Player1 a human (h) or a computer (c)?
h
Is Player2 a human (h) or a computer (c)?
h
Is Player3 a human (h) or a computer (c)?
h
Is Player4 a human (h) or a computer (c)?
h
A new round begins. It's Player4's turn to play. 2 1 1 1
Cards on the table:
Clubs:
Diamonds:
Hearts:
Spades:
Your hand: 9H QC TH 5H KS 3D KD 5S 8S 4S 7S TC 8D
Legal plays: 9S that you add to the document
quit will appear here
a49zhao@ubuntu2004-014:~/cs246/f21/straights$

```

The program is terminated immediately.