Jack Zhang

Demo Instructions

- After making the executable, run ./straights
    - If you want to give a seed, run ./straights *seed_value* like below

```
(base) Jacks-MacBook-Pro:straights jackzhang$ ./straights 50
Is Player1 a human (h) or a computer (c)?
```

    - If an invalid seed value is given, the program tells the player this and proceeds with the default seed value of 100.

```
(base) Jacks-MacBook-Pro:straights jackzhang$ ./straights ee 20
The seed input (ee) is not a integer, use default seed 100.
```

```
The seed input (eq) is not a integer, use default seed 100.
Is Player1 a human (h) or a computer (c)?
```

    - If no seed value is given, a default seed of 100 is used

```
(base) Jacks-MacBook-Pro:straights jackzhang$ ./straights
No seed input, use default seed 100.
Is Player1 a human (h) or a computer (c)?
```

- Once prompted to invite players, enter the characters h or c to invite humans and computers, respectively.
    - Bonus feature: If you want to invite two smarter kinds of computer players, enter the characters s or p to invite seniors and principals, respectively.

```
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)?
p
Is Player4 a human (h) or a computer (c)?
s
A new round begins. It's Player1's turn to play.
```

    - Seniors always play the largest possible card. Princials always play the largest possible card and discard the smallest possible card.
    - The program will not accept any other kinds of input as players.

```
Is Player1 a human (h) or a computer (c)?
0
This is not a legal player type. Valid types: [human<h>|computer<x>|senior<s>|principal<p>]
Is Player1 a human (h) or a computer (c)?
P
This is not a legal player type. Valid types: [human<h>|computer<x>|senior<s>|principal<p>]
Is Player1 a human (h) or a computer (c)?
 k
```

- Once the first round begins, the player with 7 of spades in their hand automatically plays it, and then it is the turn of the player with the next highest ID (goes to player1 if player4 played last turn).

```
A new round begins. It's Player1's turn to play.
Cards on the table:
Clubs:
Diamonds:
Hearts:
Spades:
Your hand: 5S 3S 6C JD 4S 9H 7C 7S 2H 2D TC 6H AS
Legal plays: 7C 7S
Player1 plays 7S.
Cards on the table:
Clubs:
Diamonds:
Hearts:
Spades: 7
Your hand: 8C KH 8D QS 9C 4D 7H 3D 5C AD QD KD QC
Legal plays: 7H
```

Humans

- Each time it is a human player's turn, they are shown the current layout of cards on the table, the cards in their hand, and their legal plays, as displayed above.
- The human player plays a card by entering play *two-character_card_name*.

```
play 7H
Player2 plays 7H.
Cards on the table:
Clubs:
Diamonds:
Hearts: 7
Spades: 7
```

- If the player has legal plays and tries to discard a card from their hand by running discard *two-character_card_name*, the program tells them they can't do this, and they must enter a different input.

```
discard KH
You have a legal play. You may not discard.
```

- If the player tries to play a card that is illegal, either because they do not have it in their hand or because it is not a legal play, the program tells them and rejects the input.

```
Cards on the table:
Clubs:
Diamonds:
Hearts: 7
Spades: 6 7
Your hand: 2H 4D 9D 9S 8C AC TS KC 3H 3D 8S 4S
Legal plays: 8S
play 8H
This is not a legal play.
play 4H
This is not a legal play.
```

- If an invalid input is entered, the program notifies the player, and they must enter a different input.

```
play ds
Not a legal play.
play H
Not a legal play.
play e23
Not a legal play.
yalp 7H
PlayType::ERROR
Not a legal play.
```

- If the player wants to view the contents of the deck in order, they enter deck.

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

- If a human player wants to ragequit, they enter ragequit during their turn, and they are replaced with a computer player.

```
ragequit
Player3 ragequits. A computer will take over now.
```

- If a human player wants to quit, they enter quit, and the program terminates with no output.
- When a round ends because no player has cards left (but no player has accumulated 80 points or more) , the players' discards from this round and scores are printed out, and the program starts a new round with new hands and a clean table.

```
Player3 plays KH.
Player1's discards:
Player1's score: 7 + 0 + 0 + 53 + 1 + 0 = 61
Player2's discards: AH
Player2's score: 2 + 1 + 3 + 15 + 3 + 1 = 25
Player3's discards: AS AC 2H
Player3's score: 1 + 3 + 0 + 19 + 18 + 4 = 45
Player4's discards:
Player4's score: 5 + 4 + 15 + 13 + 3 + 0 = 40
A new round begins. It's Player1's turn to play.
```

- When a round ends and at least one player has a score of at least 80, the game ends, the players' scores and discards throughout the game are outputted. All players with the winning score (the lowest) are declared winners.
- Whenever there are no human players (because the last one ragequit or because none were invited at first), the program completes.