When we run the program, the following prompt shows up requesting the number of players. Let us have 3 players in this game (but first inputting 1 player):

```
How many players?
1
Minimum of 2 players are required to play this game.
How many players?
```

We see that the program automatically rejects it as Hydra requires 2 players in this game. We input 3 players.

```
Minimum of 2 players are required to play this game.
How many players?
3

Heads:
1: 7H (1)

Players:
Player 1: 53 (53 draw, 0 discard)
Player 2: 54 (54 draw, 0 discard)
Player 3: 54 (54 draw, 0 discard)

Player 2, it is your turn.
Heads:
1: 7H (1)

Players:
Player 1: 53 (53 draw, 0 discard)
Player 2: 53 (53 draw, 0 discard) + 1 in hand, 0 remaining, 0 in reserve.
Player 3: 54 (54 draw, 0 discard)

Player 2 you are holding a 2H. Your move?
```

Inputting 3 players, it is automatically Player 2's turn. Player 1's turn is automatically played as the first card. Player 2 is holding a 2 of Hearts. We play this card on the head labelled "1", by inputting 1.

```
Player 2 you are holding a 2H. Your move?
1

Player 3, it is your turn.
Heads:
1: 2H (2)

Players:
Player 1: 53 (53 draw, 0 discard)
Player 2: 53 (53 draw, 0 discard)
Player 3: 53 (53 draw, 0 discard) + 1 in hand, 0 remaining, 0 in reserve.

Player 3 you are holding a joker. Your move?
```

Player 2's card gets added to the only head. There are now 2 cards, labelled (2) in that head. Player 3 now has a joker. We of course play this card onto head 1.

```
Player 3 you are holding a joker. Your move?
1

Joker value?
```

Which requires the joker value. We set it to an Ace of Clubs.

```
Heads:
1: ACJ (3)

Players:
Player 1: 53 (53 draw, 0 discard)
Player 2: 53 (53 draw, 0 discard)
Player 3: 53 (53 draw, 0 discard)

Player 1, it is your turn.
Heads:
1: ACJ (3)

Players:
Player 1: 52 (52 draw, 0 discard) + 1 in hand, 0 remaining, 0 in reserve.
Player 2: 53 (53 draw, 0 discard)
Player 3: 53 (53 draw, 0 discard)

Player 1 you are holding a 7D. Your move?
```

Note that the card is now an Ace of Clubs, labelled with a J labelled at the end. Player 1 is now holding a 7D. We put this card in discard since it is playable, by inputting 0.

```
Player 1 you are holding a 7D. Your move?
0

Player 2, it is your turn.
Heads:
1: ACJ (3)

Players:
Player 1: 53 (52 draw, 1 discard)
Player 2: 52 (52 draw, 0 discard) + 1 in hand, 0 remaining, 0 in reserve.
Player 3: 53 (53 draw, 0 discard)

Player 2 you are holding a KD. Your move?
```

Note how Player 1 now has 52 in their draw pile, and 1 in their discard. Player 2 is holding a King of Diamonds. They could reserve, or they could draw. Let us draw.

```
Player 2 you are holding a KD. Your move?
1

Player 3, it is your turn.
Heads:
2: 2S (1)
3: 9S (1)

Players:
Player 1: 53 (52 draw, 1 discard)
Player 2: 54 (50 draw, 4 discard)
Player 3: 52 (52 draw, 0 discard) + 1 in hand, 1 remaining, 0 in reserve.

Player 3 you are holding a 7H. Your move?
```

Note how Player 2 now has 4 cards in their discard pile, and the next 2 cards are played in the draw card to be the new heads. Moving a few turns forward again to Player 2, they are holding a 9H. We type 0 to put it in reserve, and we see that the next card in the pile is a 4S.

```
Player 2, it is your turn.
Heads:
2: 2S (1)
3: 6D (4)

Players:
Player 1: 52 (51 draw, 1 discard)
Player 2: 53 (49 draw, 4 discard) + 1 in hand, 1 remaining, 0 in reserve.
Player 3: 51 (51 draw, 0 discard)

Player 2 you are holding a 9H. Your move?
0

Heads:
2: 2S (1)
3: 6D (4)

Players:
Player 1: 52 (51 draw, 1 discard)
Player 2: 52 (48 draw, 4 discard) + 1 in hand, 0 remaining, 1 in reserve.
Player 3: 51 (51 draw, 0 discard)

Player 2 you are holding a 4S. Your move?
```

Since it is still Player 2's turn they can openly switch back and forth infinitely many times.

```
Players:
Player 1: 52 (51 draw, 1 discard)
Player 2: 52 (48 draw, 4 discard) + 1 in hand, 0 remaining, 1 in reserve.
Player 3: 51 (51 draw, 0 discard)

Player 2 you are holding a 9H. Your move?
0

Heads:
2: 2S (1)
3: 6D (4)

Players:
Player 1: 52 (51 draw, 1 discard)
Player 2: 52 (48 draw, 4 discard) + 1 in hand, 0 remaining, 1 in reserve.
Player 3: 51 (51 draw, 0 discard)

Player 2 you are holding a 4S. Your move?
0

Heads:
2: 2S (1)
3: 6D (4)

Players:
Player 1: 52 (51 draw, 1 discard)
Player 2: 52 (48 draw, 4 discard) + 1 in hand, 0 remaining, 1 in reserve.
Player 3: 51 (51 draw, 0 discard)

Player 2 you are holding a 9H. Your move?
0

Heads:
2: 2S (1)
3: 6D (4)

Players:
Player 1: 52 (51 draw, 1 discard)
Player 2: 52 (48 draw, 4 discard) + 1 in hand, 0 remaining, 1 in reserve.
Player 3: 51 (51 draw, 0 discard)

Player 2 you are holding a 4S. Your move?
```

Now note that we can end the game at any point by pressing the EOF functionality (Ctrl + D). Upon pressing ctrl+d, the game exits and you are back at the prompt.

```
Player 2 you are holding a 9H. Your move?
v6saxena@ubuntu2004-004:~/cs246/s21/final_project_hydra$
```

Let us now use the testing functionality. The initial prompt is as normal, inputting the number of players (4 in this case). However, we can now choose how many cards each player gets. We choose 1 card to illustrate what happens if a player wins.

```
v6saxena@ubuntu2004-004:~/cs246/s21/final_project_hydra$ ./final -testing
How many players?
4

How many cards will each player have?
```

We choose the card value for the first player.

```
How many players?
4

How many cards will each player have?
1

Which card value?
```

We choose the card value to be a King of Spades.

```
How many players?
4

How many cards will each player have?
1

Which card value?
K
Which card suite?
S
Heads:
1: K (1)

Players:
Player 1: 0 (0 draw, 0 discard)
Player 2: 1 (1 draw, 0 discard)
Player 3: 1 (1 draw, 0 discard)
Player 4: 1 (1 draw, 0 discard)

Player 1 wins!
v6saxena@ubuntu2004-004:~/cs246/s21/final_project_hydra$
```

Since that is the only card that player 1 had, they are out and win!