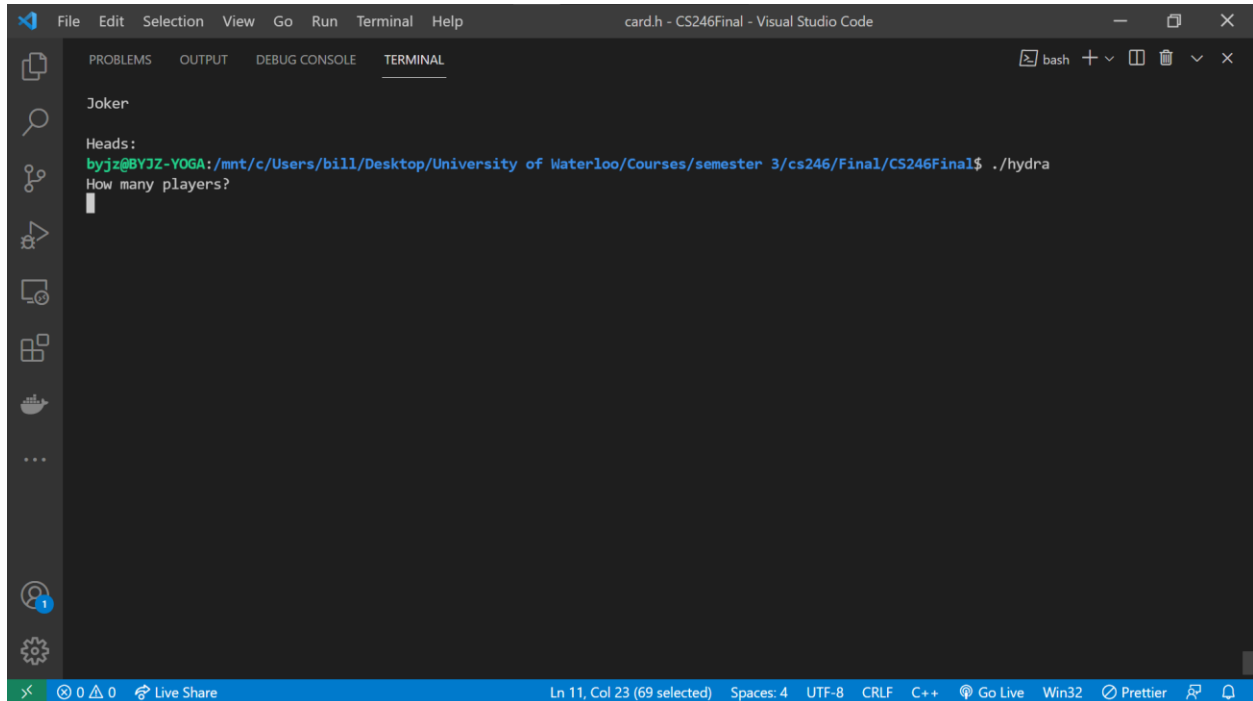
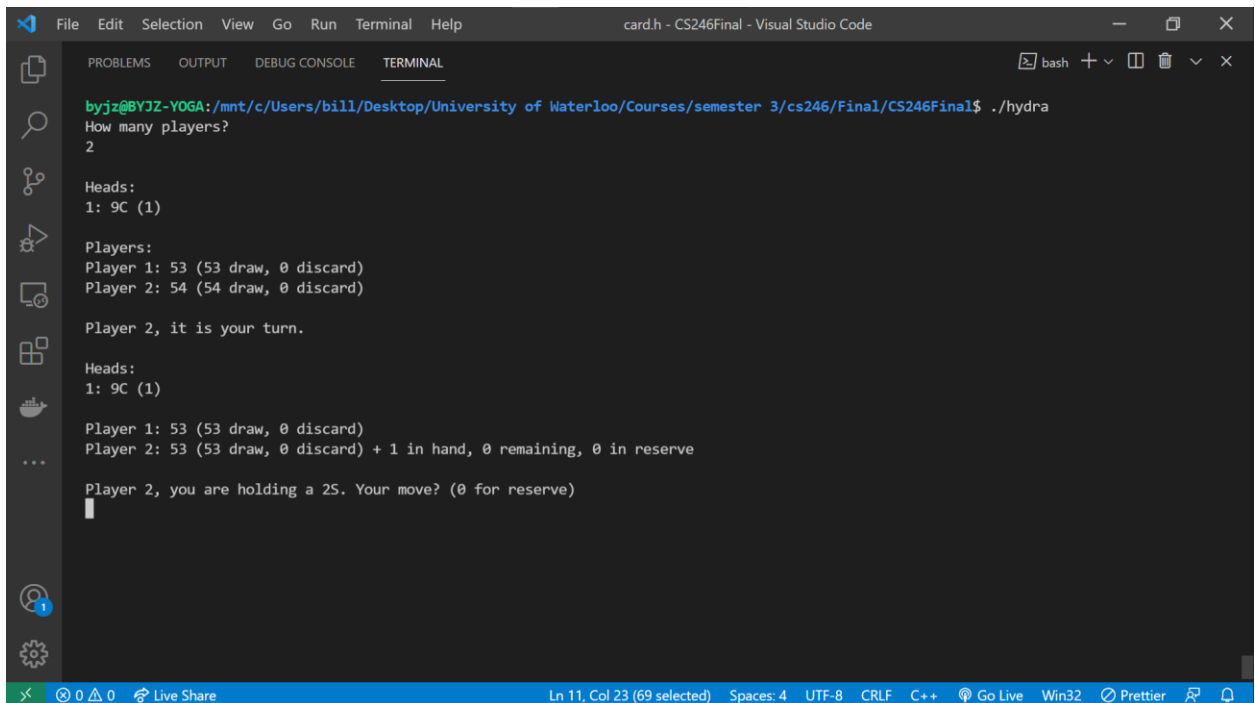


Player Inputs:



```
card.h - CS246Final - Visual Studio Code
File Edit Selection View Go Run Terminal Help
PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL
Joker
Heads:
byjz@BYJZ-YOGA:/mnt/c/Users/bill/Desktop/University of Waterloo/Courses/semester 3/cs246/Final/CS246Final$ ./hydra
How many players?
|
```

1. 2 players:



```
card.h - CS246Final - Visual Studio Code
File Edit Selection View Go Run Terminal Help
PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL
byjz@BYJZ-YOGA:/mnt/c/Users/bill/Desktop/University of Waterloo/Courses/semester 3/cs246/Final/CS246Final$ ./hydra
How many players?
2
Heads:
1: 9C (1)
Players:
Player 1: 53 (53 draw, 0 discard)
Player 2: 54 (54 draw, 0 discard)
Player 2, it is your turn.
Heads:
1: 9C (1)
Player 1: 53 (53 draw, 0 discard)
Player 2: 53 (53 draw, 0 discard) + 1 in hand, 0 remaining, 0 in reserve
Player 2, you are holding a 2S. Your move? (0 for reserve)
|
```

2. 7 players:

The screenshot shows a Visual Studio Code window with a terminal running a C++ program. The program is a card game simulation. The terminal output is as follows:

```
How many players?
7

Heads:
1: 8H (1)

Players:
Player 1: 53 (53 draw, 0 discard)
Player 2: 54 (54 draw, 0 discard)
Player 3: 54 (54 draw, 0 discard)
Player 4: 54 (54 draw, 0 discard)
Player 5: 54 (54 draw, 0 discard)
Player 6: 54 (54 draw, 0 discard)
Player 7: 54 (54 draw, 0 discard)

Player 2, it is your turn.

Heads:
1: 8H (1)

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 4: 54 (54 draw, 0 discard)
Player 5: 54 (54 draw, 0 discard)
Player 6: 54 (54 draw, 0 discard)
Player 7: 54 (54 draw, 0 discard)

Player 2, you are holding a 7C. Your move? (0 for reserve)
```

The status bar at the bottom indicates the file is 'card.h - CS246Final - Visual Studio Code', the cursor is at 'Ln 11, Col 23 (69 selected)', and the encoding is 'UTF-8'.

3. 1 player (handle exception):

The screenshot shows a Visual Studio Code window with a terminal running a C++ program. The program is a card game simulation. The terminal output is as follows:

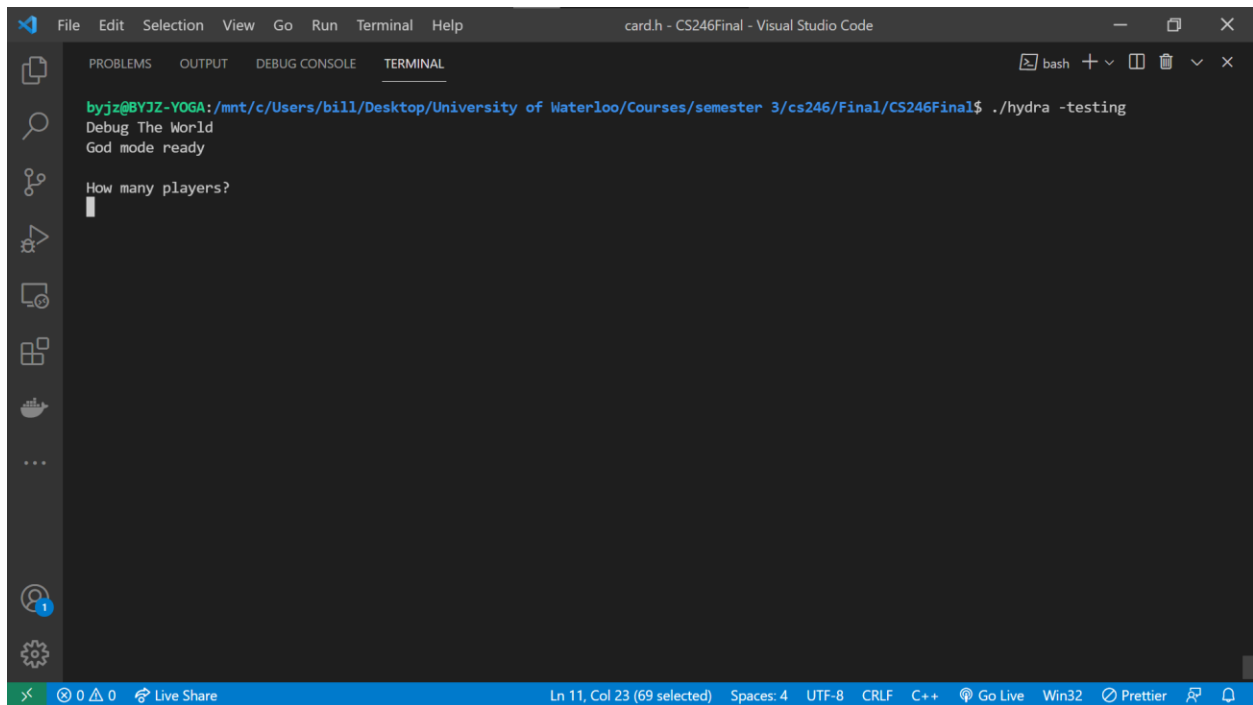
```
byjz@BYJZ-YOGA:/mnt/c/Users/bill/Desktop/University of Waterloo/Courses/semester 3/cs246/Final/CS246Final$ ./hydra
How many players?
1

How many players?

```

The status bar at the bottom indicates the file is 'card.h - CS246Final - Visual Studio Code', the cursor is at 'Ln 11, Col 23 (69 selected)', and the encoding is 'UTF-8'.

Testing Mode:

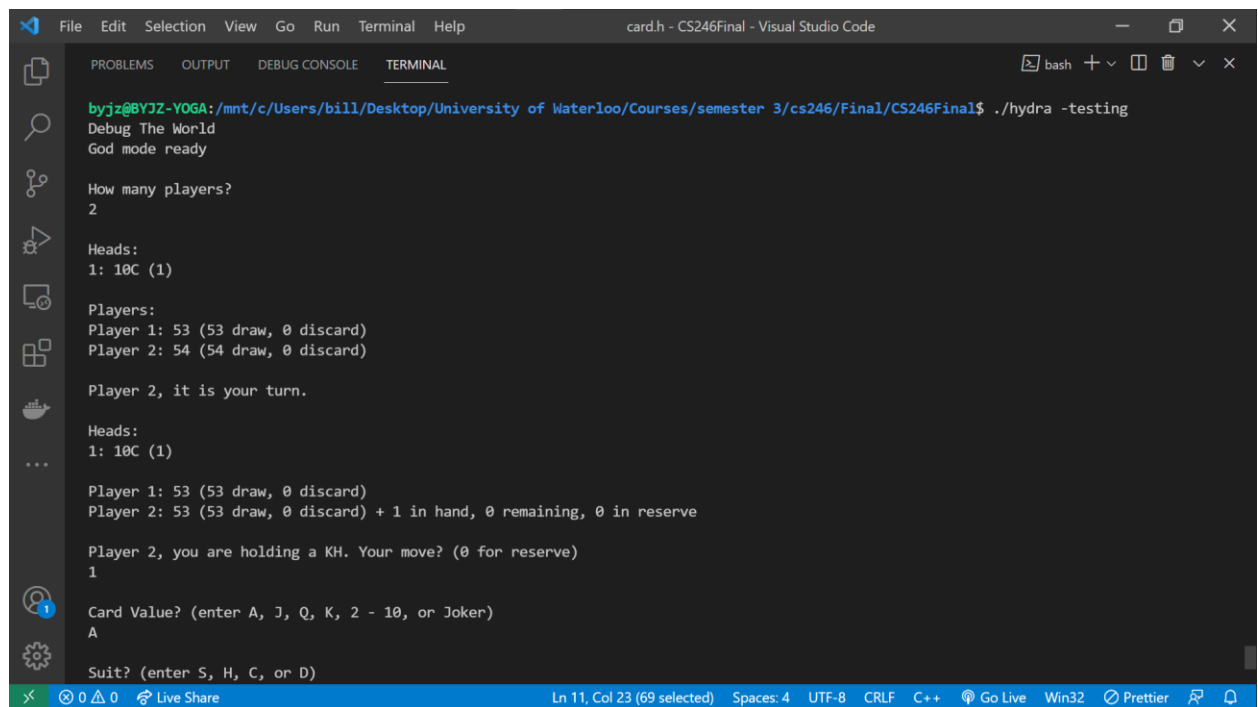


```
byjz@BYJZ-YOGA:/mnt/c/Users/bill/Desktop/University of Waterloo/Courses/semester 3/cs246/Final/CS246Final$ ./hydra -testing
Debug The World
God mode ready

How many players?

```

1. Change value and suit of the card



```
byjz@BYJZ-YOGA:/mnt/c/Users/bill/Desktop/University of Waterloo/Courses/semester 3/cs246/Final/CS246Final$ ./hydra -testing
Debug The World
God mode ready

How many players?
2

Heads:
1: 10C (1)

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

Player 2, it is your turn.

Heads:
1: 10C (1)

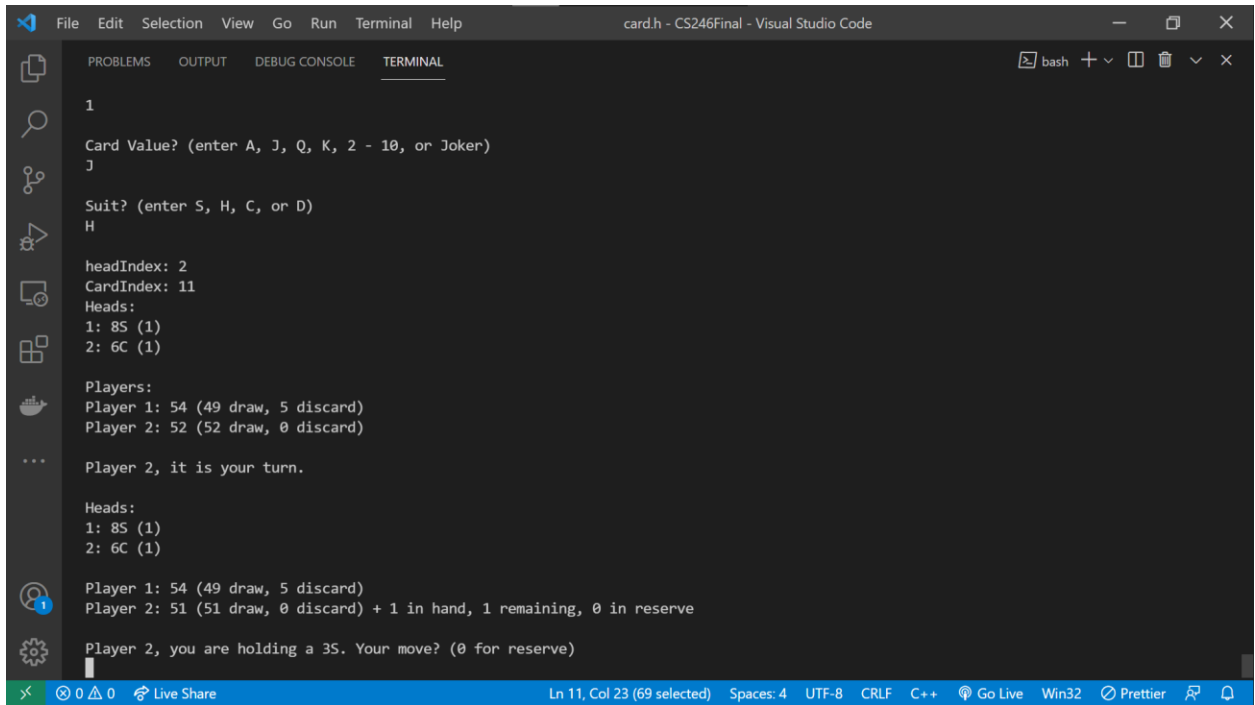
Player 1: 53 (53 draw, 0 discard)
Player 2: 53 (53 draw, 0 discard) + 1 in hand, 0 remaining, 0 in reserve

Player 2, you are holding a KH. Your move? (0 for reserve)
1

Card Value? (enter A, J, Q, K, 2 - 10, or Joker)
A

Suit? (enter S, H, C, or D)

```

The screenshot shows a Visual Studio Code window with a terminal open. The terminal output is as follows:

```
1
Card Value? (enter A, J, Q, K, 2 - 10, or Joker)
J

Suit? (enter S, H, C, or D)
H

headIndex: 2
CardIndex: 11
Heads:
1: 8S (1)
2: 6C (1)

Players:
Player 1: 54 (49 draw, 5 discard)
Player 2: 52 (52 draw, 0 discard)

...
Player 2, it is your turn.

Heads:
1: 8S (1)
2: 6C (1)

Player 1: 54 (49 draw, 5 discard)
Player 2: 51 (51 draw, 0 discard) + 1 in hand, 1 remaining, 0 in reserve

Player 2, you are holding a 3S. Your move? (0 for reserve)
```

The status bar at the bottom indicates the file is 'card.h - CS246Final - Visual Studio Code', the cursor is at 'Ln 11, Col 23 (69 selected)', and the encoding is 'UTF-8'.

When multiple heads:


```
card.h - CS246Final - Visual Studio Code
PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL
bash
Player 2, it is your turn.

Heads:
1: 2S (3)

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

Player 2, you are holding a 2H. Your move? (0 for reserve)
1

Card Value? (enter A, J, Q, K, 2 - 10, or Joker)
2

Suit? (enter S, H, C, or D)
H

...
headIndex: 2
CardIndex: 2
Heads:
1: 2H (4)

Players:
Player 1: 52 (52 draw, 0 discard)
Player 2: 52 (52 draw, 0 discard)

Player 1, it is your turn.
```

Multiple heads:

```
card.h - CS246Final - Visual Studio Code
PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL
bash
Player 2, it is your turn.

Heads:
1: 8S (1)
2: 6C (1)

Player 1: 54 (49 draw, 5 discard)
Player 2: 51 (51 draw, 0 discard) + 1 in hand, 1 remaining, 0 in reserve

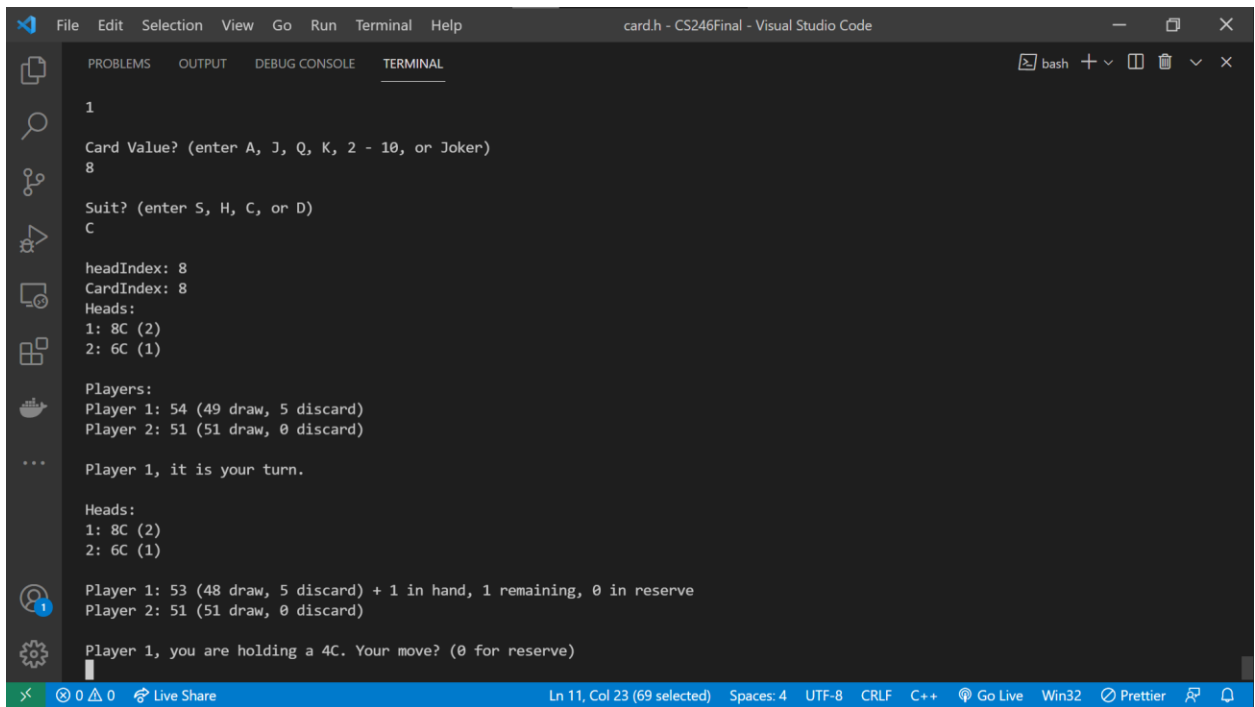
Player 2, you are holding a 3S. Your move? (0 for reserve)
1

Card Value? (enter A, J, Q, K, 2 - 10, or Joker)
8

Suit? (enter S, H, C, or D)
C

...
headIndex: 8
CardIndex: 8
Heads:
1: 8C (2)
2: 6C (1)

Players:
Player 1: 54 (49 draw, 5 discard)
Player 2: 51 (51 draw, 0 discard)
```



The screenshot shows a Visual Studio Code window with a terminal open. The terminal output is as follows:

```
1
Card Value? (enter A, J, Q, K, 2 - 10, or Joker)
8
Suit? (enter S, H, C, or D)
C
headIndex: 8
CardIndex: 8
Heads:
1: 8C (2)
2: 6C (1)

Players:
Player 1: 54 (49 draw, 5 discard)
Player 2: 51 (51 draw, 0 discard)

...
Player 1, it is your turn.

Heads:
1: 8C (2)
2: 6C (1)

Player 1: 53 (48 draw, 5 discard) + 1 in hand, 1 remaining, 0 in reserve
Player 2: 51 (51 draw, 0 discard)

Player 1, you are holding a 4C. Your move? (0 for reserve)
```

The status bar at the bottom indicates the file is 'card.h - CS246Final - Visual Studio Code', the cursor is at 'Ln 11, Col 23 (69 selected)', and the encoding is 'UTF-8'.

3. Reserve

Reserving:

The screenshot displays two instances of the Visual Studio Code editor, each with a terminal window open. The top instance shows the initial state of a card game where Player 2 has just been notified it's their turn. The bottom instance shows the game after several moves by both players.

Top Terminal Window:

```
card.h - CS246Final - Visual Studio Code  
PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL  
Player 2, it is your turn.  
  
Heads:  
4: 4D (1)  
5: 7S (1)  
6: 2J (1)  
7: JS (1)  
8: 6S (1)  
  
Player 1: 53 (43 draw, 10 discard)  
Player 2: 49 (47 draw, 2 discard) + 1 in hand, 4 remaining, 0 in reserve  
  
Player 2, you are holding a 10S. Your move? (0 for reserve)  
0  
  
Card Value? (enter A, J, Q, K, 2 - 10, or Joker)  
10  
  
...  
Suit? (enter S, H, C, or D)  
S  
  
Heads:  
4: 4D (1)  
5: 7S (1)  
6: 2J (1)  
7: JS (1)  
8: 6S (1)  
  
Player 1: 53 (43 draw, 10 discard)
```

Bottom Terminal Window:

```
card.h - CS246Final - Visual Studio Code  
PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL  
5: 7S (1)  
6: 2J (1)  
7: JS (1)  
8: 6S (1)  
  
Player 1: 53 (43 draw, 10 discard)  
Player 2: 49 (47 draw, 2 discard) + 1 in hand, 4 remaining, 0 in reserve  
  
Player 2, you are holding a 10S. Your move? (0 for reserve)  
0  
  
Card Value? (enter A, J, Q, K, 2 - 10, or Joker)  
10  
  
Suit? (enter S, H, C, or D)  
S  
  
Heads:  
4: 4D (1)  
5: 7S (1)  
6: 2J (1)  
7: JS (1)  
8: 6S (1)  
  
Player 1: 53 (43 draw, 10 discard)  
Player 2: 48 (46 draw, 2 discard) + 1 in hand, 3 remaining, 1 in reserve  
  
Player 2, you are holding a 6D. Your move? (0 for reserve)
```

Swapping reserve:

```
File Edit Selection View Go Run Terminal Help
card.h - CS246Final - Visual Studio Code

PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL
bash + v [ ] [x] [v] [x]

0
Card Value? (enter A, J, Q, K, 2 - 10, or Joker)
10
Suit? (enter S, H, C, or D)
S
Heads:
4: 4D (1)
5: 7S (1)
6: 2J (1)
7: JS (1)
8: 6S (1)
Player 1: 53 (43 draw, 10 discard)
Player 2: 48 (46 draw, 2 discard) + 1 in hand, 3 remaining, 1 in reserve
...
Player 2, you are holding a 6D. Your move? (0 for reserve)
0
Card Value? (enter A, J, Q, K, 2 - 10, or Joker)
6
Suit? (enter S, H, C, or D)
D
Player 2, you are holding a 10S. Your move? (0 for reserve)
```