



Intro to JavaScript Week 6 Coding Assignment

Points possible: 100

URL to GitHub Repository:

[https://github.com/RKMellinger/Promineo/tree/main/Week-06-DevTools Debugging and Unit Tests/Week%206%20Final](https://github.com/RKMellinger/Promineo/tree/main/Week-06-DevTools%20Debugging%20and%20Unit%20Tests/Week%206%20Final)

URL to Your Coding Assignment Video:

<https://youtu.be/F6aPP6uGIsQ>

Instructions: In Visual Studio Code, or an IDE of your choice, write the code that accomplishes the objectives listed below. Ensure that the code compiles and runs as directed. Take screenshots of the code and of the running program (make sure to get screenshots of all required functionality) and paste them in this document where instructed below. Create a new repository on GitHub for this week's assignments and push this document, with your JavaScript project code, to the repository. Add the URL for this week's repository to this document where instructed and submit this document to your instructor when complete.

Coding Steps:

For the final project you will be creating an automated version of the classic card game *WAR*. You do not need to accept any user input, when you run your code, the entire game should play out instantly without any user input.

There are many versions of the game *WAR*, but in this version there are only 2 players and you don't need to do anything special when there is a tie on a round.

Think about how you would build this project and write your plan down. Consider classes such as Card, Deck, and Player and what fields and methods they might each have. You can implement the game however you'd like (i.e. printing to the console, using alert, or some other way). The completed project should, when run, do the following:

- Deal 26 Cards to two Players from a Deck.
- Iterate through the turns where each Player plays a Card
- The Player who played the higher card is awarded a point
 - o Ties result in zero points for both Players
- After all cards have been played, display the score and declare the winner.



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Write a Unit Test using Mocha and Chai for at least one of the functions you write.

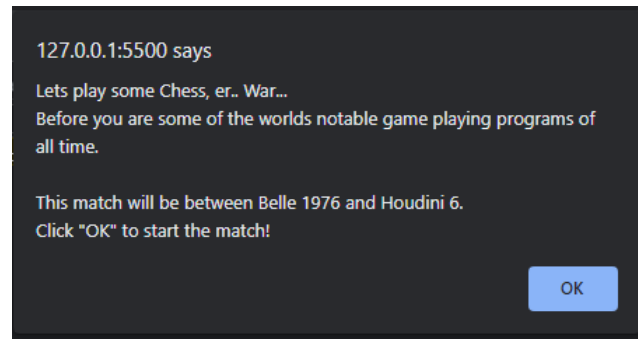
Screenshots of Code:

```
Week 06-DevTools, Debugging, and Unit Tests > Week 6 Final > JS week 6 final.js > ...
1  class Player { // Player descriptions
2    constructor(name) {
3      this.name = name
4      this.score = 0;
5      this.hand = [];
6    }
7  }
8  let names = ["Stockfish 13","Fat Fritz 2","Komodo Dragon","Igel 3.0.5","RubiChess 2.1",
9    "Houdini 6","Deep Blue", "AlphaGo", "Deep Mind", "Boris Diplomat", "Chess Challenger",
10   "The King", "Naphisto", "Helle 976", "Alphadere 2017", "Haven", "Chnook", "Kingsrow", "Chess Master 2000"]
11  let player1 = new Player(names[Math.floor(Math.random()*names.length)]) // Assigns a random name to the player
12  let player2 = new Player(names[Math.floor(Math.random()*names.length)])
13  alert('Lets play some Chess, er.. War...')
14  Before you are some of the worlds notable game playing programs of all time.\n
15  This match will be between ${player1.name} and ${player2.name}.
16  Click "OK" to start the match!')
17  console.log('This round's combatants are:');
18  console.log('Player1: ${player1.name} starting score is: ${player1.score}')
19  console.log('Player2: ${player2.name} starting score is: ${player2.score}')
20
21  let face = [2, 3, 4, 5, 6, 7, 8, 9, 10, 'J', 'Q', 'K', 'A']; //Card components
22  let suits = ['♥', '♦', '♣', '♠'];
23  let value = [2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14];
24  let fullDeck = 52
25  let playerDecks = 26
26
27  class Card { // Card Builder
28    constructor(face, suit, value) {
29      this.face = face;
30      this.suit = suit;
31      this.value = value;
32    }
33
34    this.value = value;
35  }
36  let tie = 0
37  let totalTies = 0
38
39  let player1Points = 0
40  let player2Points = 0
41  class Deck { //the Deck builder
42    constructor() {
43      this.deck = [];
44      this.winner = ""
45    }
46
47    createDeck() { //creates the deck
48      for (let faceIndex = 0; faceIndex < face.length; faceIndex++) {
49        for (let suitsIndex = 0; suitsIndex < suits.length; suitsIndex++) {
50          this.deck.push(new Card(face[faceIndex], suits[suitsIndex], value[faceIndex]));
51        }
52      }
53    }
54
55    shuffle() { //ShuffleMaster
56      for (let i = 52 - 1; i > 0; i--) {
57        let j = Math.floor(Math.random() * i)
58        let k = this.deck[i]
59        this.deck[i] = this.deck[j]
60        this.deck[j] = k
61      }
62    }
63    dealDeck() { // Deals the on 52 card deck into two 26 player decks
64
65  }
66
67  dealDeck() { // Deals the on 52 card deck into two 26 player decks
68    player1.hand = (this.deck.slice(0, 26));
69    player2.hand = (this.deck.slice(26, 52))
70    // for(let i=0; i<26; i++){
71    //   if(i % 2 === 0){
72    //     player1.hand.push(this.deck);
73    //   }else{
74    //     player2.hand.push(this.deck)
75    //   }
76    // }
77    //console.log("line 56",player1.hand[0]);
78
79    //}
80    // console.log(`${player1.name}'s hand is:
81    // ${player1.hand}`)
82    // console.log(`${player2.name}'s hand is:
83    // ${player2.hand}`)
84    console.log(`${player2.hand}`)
85    console.log(`${player2.hand}`)
86    console.log("nGood luck players, here we go.\n");
87  }
88  scoreCard(){
89    for (let i = 0; i < 26; i++){
90      if (player1.hand[i].value > player2.hand[i].value) {
91        console.log("And the draw")
92        console.log(player1.hand[i])
93        console.log(player2.hand[i])
94        console.log(player1.name + " wins!")
95        player1.score += 1
96      }else if (player1.hand[i].value < player2.hand[i].value){
97        player2.score += 1
98        console.log("And the draw")
99      }
100    }
101
102    console.log(this.winner + " takes the prize!!!")
103  }
104
105  // }
106  // }
107  // }
108
109  let freshDeck = new Deck();
110  freshDeck.createDeck();
111  freshDeck.shuffle();
112  freshDeck.dealDeck();
113  freshDeck.scoreCard();
114  freshDeck.winning();
115
116  }
117
118  console.log(player1.name + " total points: " + player1.score + "\n" +
119    player2.name + " total points: " + player2.score + "\n" + "Total number of ties: " +
120    tie + "\n")
121  console.log("The winner is: " + this.winner + "!!!!!!")
122  console.log(this.winner + " takes the prize!!!")
123
124  }
125
126  }
127
128  }
129
130  }
131  }
132
133
134  let freshDeck = new Deck();
135  freshDeck.createDeck();
136  freshDeck.shuffle();
137  freshDeck.dealDeck();
138  freshDeck.scoreCard();
139  freshDeck.winning();
140
```



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Screenshots of Running Application:



This round's combatants are: Player1: Belle 1976 starting score is: 0 Player2: Houdini 6 starting score is: 0 Good luck players, here we go. And the draw » Card {face: 9, suit: 'A', value: 9} » Card {face: 5, suit: 'V', value: 5} Belle 1976 wins! The score is: Belle 1976: 1 Houdini 6: 0 And a total of 0 ties! And the draw » Card {face: 7, suit: 'V', value: 7} » Card {face: 4, suit: 'A', value: 4} Belle 1976 wins! The score is: Belle 1976: 2 Houdini 6: 0 And a total of 0 ties! And the draw » Card {face: 'A', suit: 'A', value: 14} » Card {face: 'J', suit: 'A', value: 11} Belle 1976 wins! The score is: Belle 1976: 3 Houdini 6: 0 And a total of 0 ties! And the draw » Card {face: 3, suit: 'A', value: 3} » Card {face: 'J', suit: 'V', value: 11} Houdini 6 wins! The score is: Belle 1976: 3 Houdini 6: 1 And a total of 0 ties! And the draw » Card {face: 'K', suit: 'A', value: 13} » Card {face: 6, suit: 'A', value: 6} Belle 1976 wins! The score is: Belle 1976: 4 Houdini 6: 1 And a total of 0 ties!	And the draw » Card {face: 8, suit: 'A', value: 8} » Card {face: 5, suit: 'A', value: 5} Belle 1976 wins! The score is: Belle 1976: 5 Houdini 6: 1 And a total of 0 ties! And the draw » Card {face: 8, suit: 'A', value: 8} » Card {face: 'J', suit: 'A', value: 11} Houdini 6 wins! The score is: Belle 1976: 5 Houdini 6: 2 And a total of 0 ties! And the draw » Card {face: 'A', suit: 'V', value: 14} » Card {face: 10, suit: 'V', value: 10} Belle 1976 wins! The score is: Belle 1976: 6 Houdini 6: 2 And a total of 0 ties! And the draw » Card {face: 10, suit: 'A', value: 10} » Card {face: 10, suit: 'A', value: 10} It's a tie! The score is: Belle 1976: 6 Houdini 6: 2 And a total of 1 ties! And the draw » Card {face: 'Q', suit: 'A', value: 12} » Card {face: 6, suit: 'A', value: 6} Belle 1976 wins! The score is: Belle 1976: 7 Houdini 6: 2 And a total of 1 ties! And the draw » Card {face: 'A', suit: 'A', value: 14} » Card {face: 10, suit: 'A', value: 10} Belle 1976 wins! The score is: Belle 1976: 8 Houdini 6: 2 And a total of 1 ties!	And the draw » Card {face: 'Q', suit: 'V', value: 12} » Card {face: 9, suit: 'V', value: 9} Belle 1976 wins! The score is: Belle 1976: 9 Houdini 6: 2 And a total of 1 ties! And the draw » Card {face: 5, suit: 'A', value: 5} » Card {face: 'A', suit: 'A', value: 14} Houdini 6 wins! The score is: Belle 1976: 9 Houdini 6: 3 And a total of 1 ties! And the draw » Card {face: 4, suit: 'V', value: 4} » Card {face: 7, suit: 'A', value: 7} Houdini 6 wins! The score is: Belle 1976: 9 Houdini 6: 4 And a total of 1 ties! And the draw » Card {face: 6, suit: 'A', value: 6} » Card {face: 5, suit: 'A', value: 5} Belle 1976 wins! The score is: Belle 1976: 10 Houdini 6: 4 And a total of 1 ties! And the draw » Card {face: 'Q', suit: 'A', value: 12} » Card {face: 7, suit: 'A', value: 7} Belle 1976 wins! The score is: Belle 1976: 11 Houdini 6: 4 And a total of 1 ties! The score is: Belle 1976: 12 Houdini 6: 4 And a total of 1 ties!	And the draw » Card {face: 8, suit: 'V', value: 8} » Card {face: 2, suit: 'V', value: 2} Belle 1976 wins! The score is: Belle 1976: 13 Houdini 6: 4 And a total of 1 ties! And the draw » Card {face: 7, suit: 'A', value: 7} » Card {face: 'Q', suit: 'A', value: 12} Houdini 6 wins! The score is: Belle 1976: 13 Houdini 6: 5 And a total of 1 ties! And the draw » Card {face: 'J', suit: 'A', value: 11} » Card {face: 2, suit: 'A', value: 2} Belle 1976 wins! The score is: Belle 1976: 14 Houdini 6: 5 And a total of 1 ties! And the draw » Card {face: 2, suit: 'A', value: 2} » Card {face: 'K', suit: 'V', value: 13} Houdini 6 wins! The score is: Belle 1976: 14 Houdini 6: 6 And a total of 1 ties! And the draw » Card {face: 4, suit: 'A', value: 4} » Card {face: 2, suit: 'V', value: 2} Belle 1976 wins! The score is: Belle 1976: 15 Houdini 6: 6 And a total of 1 ties! And the draw » Card {face: 9, suit: 'A', value: 9} » Card {face: 'K', suit: 'A', value: 13} Houdini 6 wins! The score is: Belle 1976: 15 Houdini 6: 7 And a total of 1 ties!
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And the draw

► Card {face: 3, suit: '♥', value: 3}

► Card {face: 'K', suit: '♦', value: 13}

Houdini 6 wins!

The score is:

Belle 1976: 15

Houdini 6: 8

And a total of 1 ties!

And the draw

► Card {face: 3, suit: '♠', value: 3}

► Card {face: 8, suit: '♠', value: 8}

Houdini 6 wins!

The score is:

Belle 1976: 15

Houdini 6: 9

And a total of 1 ties!

And the draw

► Card {face: 9, suit: '♣', value: 9}

► Card {face: 6, suit: '♥', value: 6}

Belle 1976 wins!

The score is:

Belle 1976: 16

Houdini 6: 9

And a total of 1 ties!

Belle 1976 total points: 16

Houdini 6 total points: 9

Total number of ties: 1

The winner is: Belle 1976!!!!

Belle 1976 takes the prize!!!