



Intro to JavaScript Week 6 Coding Assignment

Points possible: 70

Category	Criteria	% of Grade
Functionality	Does the code work?	25
Organization	Is the code clean and organized? Proper use of white space, syntax, and consistency are utilized. Names and comments are concise and clear.	25
Creativity	Student solved the problems presented in the assignment using creativity and out of the box thinking.	25
Completeness	All requirements of the assignment are complete.	25

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.

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 ran, 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 either Player



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- After all cards have been played, display the score.

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

Screenshots of Code:

```
//Evenly divides the deck of cards between each player hand

deal(player1, player2) {
  for (let i = 0; i < this.deck.length; i++) {
    if (i % 2 === 0) {
      player1.hand.push(this.deck[i])
    }
    else {
      player2.hand.push(this.deck[i])
    }
  }
}
```

```
while (player1.hand.length != 0 && player2.hand.length != 0) {
  if (this.getCardValue(player1.hand[0].card) > this.getCardValue(player2.hand[0].card)) {
    console.log(`${player1.name} wins ${player1.hand[0].card} of ${player1.hand[0].suit} beats ${player2.hand[0].card} of ${player2.hand[0].suit}`)
    this.winRound(player1, player2)
  }
  else if (this.getCardValue(player1.hand[0].card) === this.getCardValue(player2.hand[0].card)) {
    console.log(`This is WAR ${player2.hand[0].card} of ${player2.hand[0].suit} is equal to ${player1.hand[0].card} of ${player1.hand[0].suit}`)
    this.warCount++

    //Make sure players have enough cards for war, if there is less than 3 cards a player does not have enough cards to complete the war
    //If not enough cards call outOfCards function

    if (player1.hand.length >= 3 && player2.hand.length >= 3) {
      for (let i = 0; i < 2; i++) {
        this.warReward.push(player2.hand.shift(), player1.hand.shift())
      }
    }
    else if (player1.hand.length < 3) {
      this.outOfCards(player1, player2)
    }
    else {
      this.outOfCards(player2, player1)
    }
  }
  else {
    console.log(`${player2.name} wins ${player2.hand[0].card} of ${player2.hand[0].suit} beats ${player1.hand[0].card} of ${player1.hand[0].suit}`)
    this.winRound(player2, player1)
  }
  this.totalRounds++
}
```



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```
//Score output based on who is out of cards

if (player1.hand.length === 0) {
  console.log(`${player2.name} wins!
  Total score:
  ${player2.name}: ${player2.score}
  ${player1.name}: ${player1.score}`)
}
else if (player2.hand.length === 0) {
  console.log(`${player1.name} wins!
  Total score:
  ${player1.name}: ${player1.score}
  ${player2.name}: ${player2.score}`)
}

console.log(`Total wars: ${this.warCount}`)
console.log(`Total rounds: ${this.totalRounds}`)

console.log(player1.hand, player2.hand)
```

```
//Unit tests

var expect = chai.expect

describe('Function test', function() {
  describe('#getCardValue', function(){
    it('Should return the value of the passed in card', function(){
      let game = new Game()
      let x = game.getCardValue('K')
      expect(x).to.equal(13)
    })
  })
})
```



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Screenshots of Running Application:

CPU wins J of Spades beats 9 of Clubs	war.js:182:13
CPU wins 4 of Hearts beats 3 of Clubs	war.js:182:13
User wins A of Hearts beats 6 of Hearts	war.js:159:13
User wins J of Diamonds beats 8 of Diamonds	war.js:159:13
This is WAR K of Clubs is equal to K of Hearts	war.js:163:13
User wins Q of Spades beats 7 of Hearts	war.js:159:13
User wins 8 of Spades beats 5 of Clubs	war.js:159:13
User wins A of Spades beats J of Clubs	war.js:159:13
User wins K of Diamonds beats 3 of Diamonds	war.js:159:13
User wins A of Diamonds beats 10 of Spades	war.js:159:13
User wins 6 of Diamonds beats 2 of Clubs	war.js:159:13
User wins K of Spades beats Q of Hearts	war.js:159:13
CPU wins 5 of Diamonds beats 2 of Spades	war.js:182:13
CPU wins 9 of Hearts beats 4 of Clubs	war.js:182:13
User wins 8 of Hearts beats 7 of Clubs	war.js:159:13
This is WAR 9 of Spades is equal to 9 of Diamonds	war.js:163:13
User wins Q of Clubs beats 10 of Hearts	war.js:159:13
CPU wins 7 of Diamonds beats 2 of Diamonds	war.js:182:13
User wins A of Clubs beats 10 of Clubs	war.js:159:13
CPU wins 9 of Clubs beats 4 of Spades	war.js:182:13
This is WAR J of Spades is equal to J of Hearts	war.js:163:13
User wins Q of Diamonds beats 4 of Hearts	war.js:159:13
User wins 5 of Spades beats 2 of Spades	war.js:159:13
User wins 8 of Clubs beats 5 of Diamonds	war.js:159:13
User wins 6 of Spades beats 4 of Clubs	war.js:159:13
User wins 10 of Diamonds beats 9 of Hearts	war.js:159:13
User wins 3 of Spades beats 2 of Diamonds	war.js:159:13
CPU wins 7 of Diamonds beats 5 of Hearts	war.js:182:13
User wins 6 of Hearts beats 4 of Spades	war.js:159:13
User wins A of Hearts beats 9 of Clubs	war.js:159:13
User wins 8 of Diamonds beats 5 of Hearts	war.js:159:13
User wins J of Diamonds beats 7 of Diamonds	war.js:159:13
User wins!	war.js:197:12
Total score:	
User: 39	
CPU: 19	
Total wars: 3	war.js:203:17
Total rounds: 61	war.js:204:17
► Array(52) [{}, {}, {}, {}, {}, {}, {}, {}, {},	war.js:206:17
{}, -]	
► Array []	
Live reload enabled.	war.html:48:13

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Function test

#getCardValue

✓ Should return the value of the passed in card



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URL to GitHub Repository: <https://github.com/n-harvey/Week6CodingAssignment>