



Intro to JavaScript Week 6 Coding Assignment

Points possible: 100

URL to GitHub Repository: https://github.com/soppon323/JS_War_Game

URL to Your Coding Assignment Video:

https://drive.google.com/file/d/1utEV_KqHe3TwzWkPZMr-Og1vzEYX0tPn/view?usp=sharing

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.

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



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Video Steps:

Create a video, up to five minutes max, showing and explaining how your project works with an emphasis on the portions you contributed. This video should be done using screen share and voice over. This can easily be done using Zoom, although you don't have to use Zoom, it's just what we recommend. You can create a new meeting, start screen sharing, and start recording. This will create a video recording on your computer. This should then be uploaded to a publicly accessible site, such as YouTube, Dropbox, or Google Drive. **MAKE SURE THE LINK YOU SHARE IS PUBLIC or UNLISTED.** If it is not accessible by your grader, your project will be graded based on what they can access. The link should be pasted in the submission text box after the GitHub repo link. **REQUIRED: PUBLIC link to video, and GitHub repo link with everything listed above!**

Screenshots of Code:



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```
index.html JS index.js x
JS index.js > Deck > deal
1 class Card {
2   constructor (suit,value){
3     this.value = value;
4     this.suit = suit;
5   }
6
7   describe(){
8     return `${this.value} of ${this.suit}`
9   }
10 }
11
12 class Deck {
13
14   constructor(){
15     this.deck = [];
16   }
17
18   createDeck(value,suits) {
19     for (let i = 0; i < suits.length; i++) {
20       for (let j = 0; j < value.length; j++) {
21
22         this.deck.push(new Card(suits[i],value[j]).describe());
23       }
24     }
25     return this.deck;
26   }
27
28   shuffleDeck(){
29     let counter = this.deck.length, temp, i;
30     while(counter) {
31       i = Math.floor(Math.random()* counter--);
32       temp = this.deck[counter];
33       this.deck[counter] = this.deck[i];
34       this.deck[i] = temp;
35     }
36   }
37 }
```

```
index.html JS index.js x
JS index.js > Deck > deal
37
38   return this.deck;
39 }
40
41 deal(){
42
43   let player1Name = window.prompt("Please enter your name?")
44
45   window.alert(`Hello ${player1Name} you will be playing against the Computer today`)
46
47   let player1Hand = [];
48   let player2Hand = [];
49   for (let i = 0; i < this.deck.length; i++){
50     if (i % 2 == 0){
51       player1Hand.push(this.deck[i])
52     } else if (i % 2 == 1){
53       player2Hand.push(this.deck[i])
54     }
55   }
56
57   console.log(player1Hand)
58   console.log(player2Hand)
59
60
61
62   let player1HandValue = [];
63   let player2HandValue = [];
64   for (let i = 0; i < player1Hand.length; i++){
65     if (player1Hand[i].startsWith("2")){
66       player1HandValue.push(2)
67     } else if (player1Hand[i].startsWith("3")){
68       player1HandValue.push(3)
69     } else if (player1Hand[i].startsWith("4")){
70       player1HandValue.push(4)
71     } else if (player1Hand[i].startsWith("5")){
72       player1HandValue.push(5)
73     } else if (player1Hand[i].startsWith("6")){
74     }
```



PROMINEO TECH

```
index.html JS index.js X
JS index.js > Deck > deal
73 } else if (player1Hand[i].startsWith("6")){
74   player1HandValue.push(6)
75 } else if (player1Hand[i].startsWith("7")){
76   player1HandValue.push(7)
77 } else if (player1Hand[i].startsWith("8")){
78   player1HandValue.push(8)
79 } else if (player1Hand[i].startsWith("9")){
80   player1HandValue.push(9)
81 } else if (player1Hand[i].startsWith("10")){
82   player1HandValue.push(10)
83 } else if (player1Hand[i].startsWith("Jack")){
84   player1HandValue.push(11)
85 } else if (player1Hand[i].startsWith("Queen")){
86   player1HandValue.push(12)
87 } else if (player1Hand[i].startsWith("King")){
88   player1HandValue.push(13)
89 } else if (player1Hand[i].startsWith("Ace")){
90   player1HandValue.push(14)
91 }
92 }
93
94 for (let j = 0; j < player2Hand.length; j++){
95   if (player2Hand[j].startsWith("2")){
96     player2HandValue.push(2)
97   } else if (player2Hand[j].startsWith("3")){
98     player2HandValue.push(3)
99   } else if (player2Hand[j].startsWith("4")){
100     player2HandValue.push(4)
101   } else if (player2Hand[j].startsWith("5")){
102     player2HandValue.push(5)
103   } else if (player2Hand[j].startsWith("6")){
104     player2HandValue.push(6)
105   } else if (player2Hand[j].startsWith("7")){
106     player2HandValue.push(7)
107   } else if (player2Hand[j].startsWith("8")){
108     player2HandValue.push(8)
109   } else if (player2Hand[j].startsWith("9")){
```

```
index.html JS index.js M X
JS index.js > Deck > deal
106   player2HandValue.push(7)
107 } else if (player2Hand[j].startsWith("8")){
108   player2HandValue.push(8)
109 } else if (player2Hand[j].startsWith("9")){
110   player2HandValue.push(9)
111 } else if (player2Hand[j].startsWith("10")){
112   player2HandValue.push(10)
113 } else if (player2Hand[j].startsWith("Jack")){
114   player2HandValue.push(11)
115 } else if (player2Hand[j].startsWith("Queen")){
116   player2HandValue.push(12)
117 } else if (player2Hand[j].startsWith("King")){
118   player2HandValue.push(13)
119 } else if (player2Hand[j].startsWith("Ace")){
120   player2HandValue.push(14)
121 }
122 }
123
124
125 let player1Score = 0;
126 let player2Score = 0;
127 for (let i = 0; i < player1HandValue.length; i++){
128   if (player1HandValue[i] > player2HandValue[i]){
129     player1Score ++
130     console.log(`Hand ${i + 1} : ${player1Name} drew a ${player1Hand[i]} and
131       the Computer drew a ${player2Hand[i]}. ${player1Name} wins`)
132   } else if (player1HandValue[i] < player2HandValue[i]){
133     player2Score ++
134     console.log(`Hand ${i + 1} : ${player1Name} drew a ${player2Hand[i]} and
135       the Computer drew a ${player1Hand[i]}. the Computer wins`)
136   } else if (player1HandValue[i] = player2HandValue[i]){
137     console.log(`Hand ${i + 1} : ${player1Name} drew a ${player1Hand[i]} and
138       the Computer drew a ${player2Hand[i]}. It's a tie.`)
139   }
140 }
141
142 if (player1Score > player2Score){
143   return window.alert(`${player1Name} wins with a score of ${player1Score} to ${player2Score}`)
144 }
```



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```
index.html JS index.js M X
JS index.js > Deck > deal
132 } else if (player1HandValue[i] < player2HandValue[i]){
133     player2Score ++
134     console.log('Hand ${i + 1} : ${player1Name} drew a ${player2Hand[i]} and
135     the Computer drew a ${player1Hand[i]}. the Computer wins')
136 } else if (player1HandValue[i] = player2HandValue[i]){
137     console.log('Hand ${i + 1} : ${player1Name} drew a ${player1Hand[i]} and
138     the Computer drew a ${player2Hand[i]}. It's a tie.')
139 }
140 }
141 if (player1Score > player2Score){
142     return window.alert(`${player1Name} wins with a score of ${player1Score} to ${player2Score}`)
143 } else if (player1Score < player2Score){
144     return window.alert('the Computer wins with a score of ${player2Score} to ${player1Score}')
145 } else return window.alert("It's a tie!!!")
146 }
147 }
148 }
149 }
150 }
151 }
152 }
153 }
154 const values = ["2","3","4","5","6","7","8","9","10","Jack","Queen","King","Ace"];
155 const suits = ["Hearts","Diamonds","Clubs","Spades"]
156 }
157 class game {
158     constructor(deck) {
159         this.deck = new Deck();
160         this.deck.createDeck(values, suits);
161         this.deck.shuffleDeck();
162         this.deck.deal();
163     }
164 }
165 }
166 new game(1);
167 }
168 }

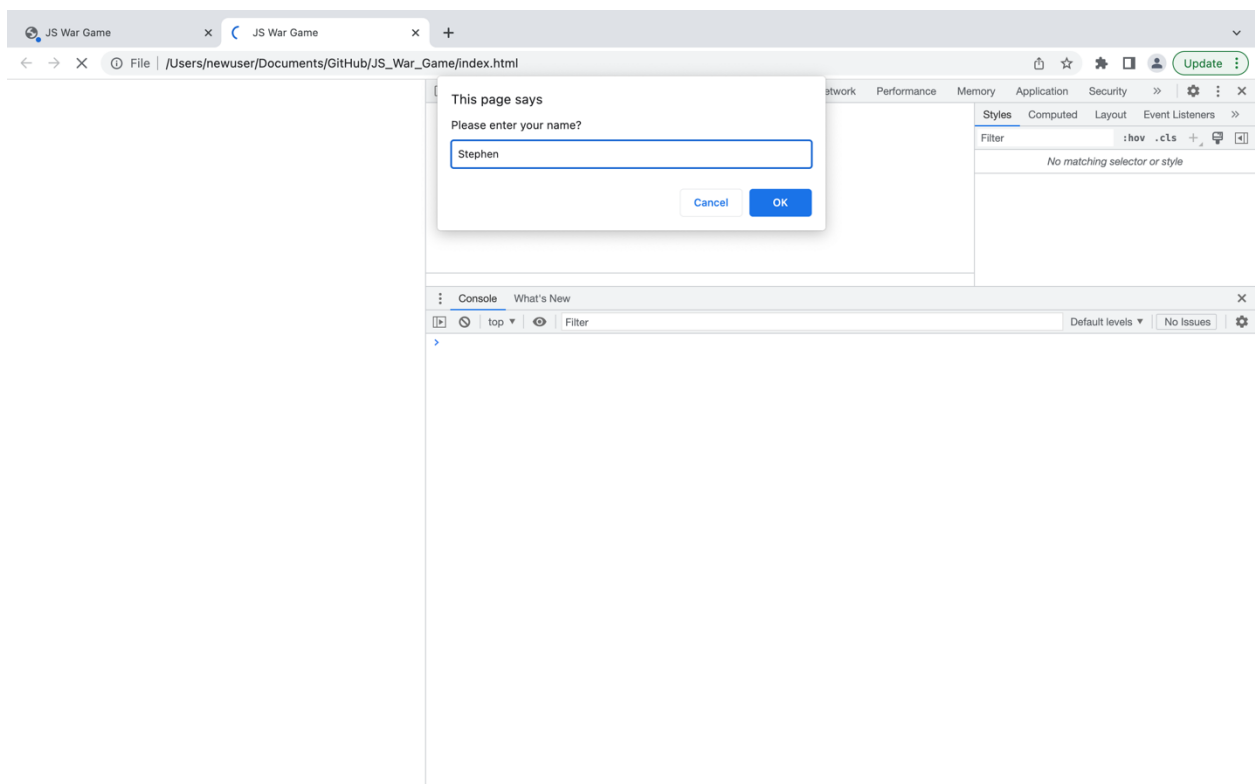
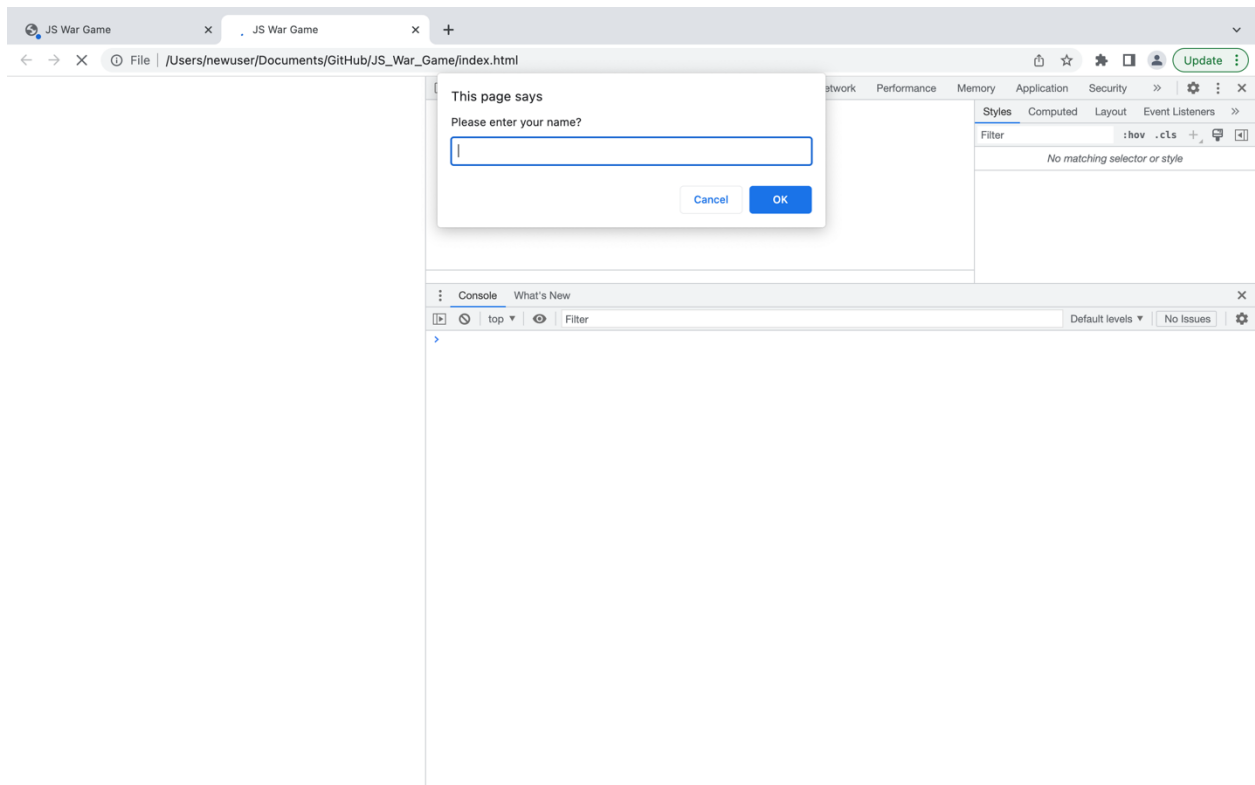
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```

```
index.html JS index.js M JS index_test.js U X test.html U ~$-Week6_Coding-Assignment.docx
JS index_test.js > ...
1 var expect = chai.expect
2
3 describe("myFunction",function(){
4     describe("#checkPlayerHand",function(){
5         it("Should check to see if the size of both the arrays is the same",function(){
6             let b: number[]
7             let b = [6,9,0];
8             let x = checkPlayerHand(a,b);
9             expect(x).to.equal(true);
10        })
11        it("Should throw an error if the length of both arrays are not the same", function(){
12
13            let c=[3,4,5,6,7]
14            let d = [9,8]
15            let y = checkPlayerHand(c,d);
16            expect(y).to.equal(false)
17        });
18    });
19 });
20
21 });
22 }
```



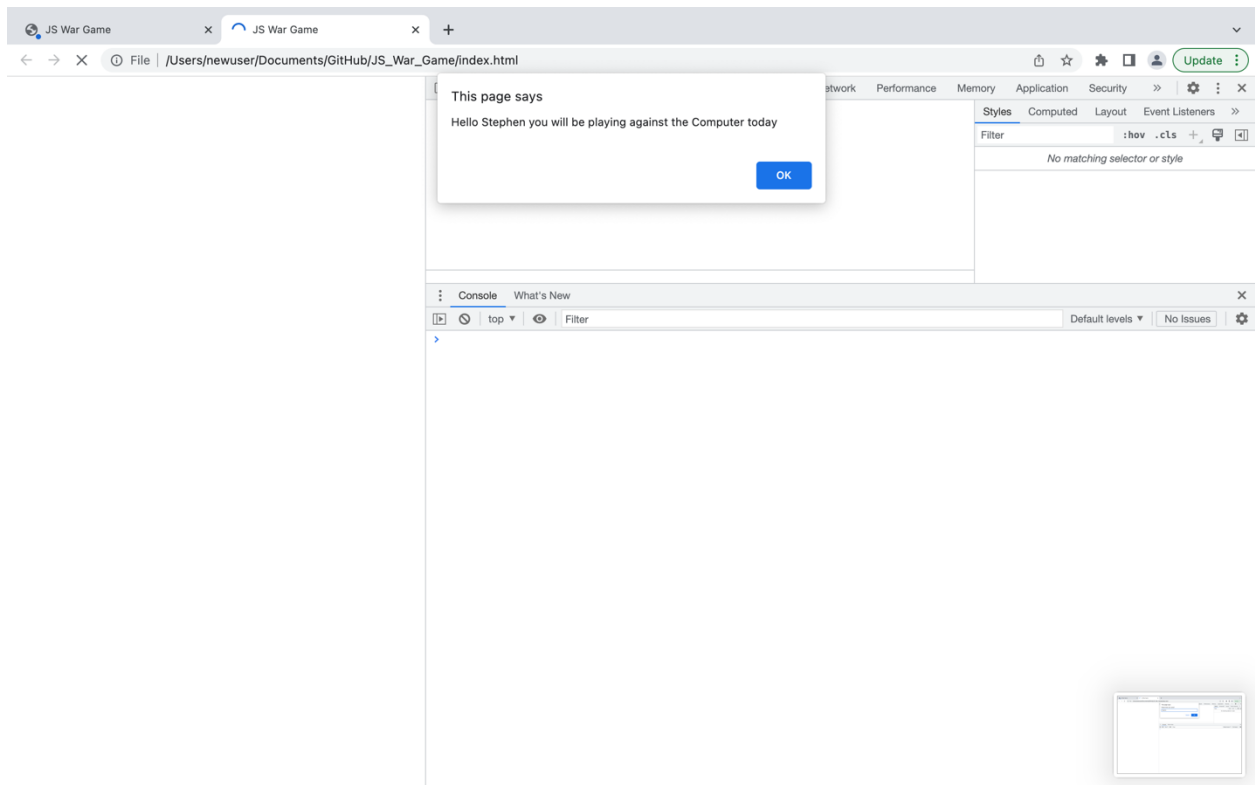
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Screenshots of Running Application:





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This page says
Stephen wins with a score of 15 to 11

OK

Console

Hand	Stephen's Hand	Computer's Hand	Winner
Hand 1	Stephen drew a 6 of Diamonds and the Computer drew a 5 of Clubs.	Stephen wins	
Hand 2	Stephen drew a 3 of Clubs and the Computer drew a 2 of Spades.	Stephen wins	
Hand 3	Stephen drew a 10 of Hearts and the Computer drew a 5 of Hearts.	Stephen wins	
Hand 4	Stephen drew a Ace of Diamonds and the Computer drew a 6 of Hearts.	the Computer wins	
Hand 5	Stephen drew a King of Clubs and the Computer drew a 7 of Diamonds.	Stephen wins	
Hand 6	Stephen drew a Jack of Clubs and the Computer drew a 5 of Diamonds.	the Computer wins	
Hand 7	Stephen drew a Ace of Spades and the Computer drew a Jack of Spades.	the Computer wins	
Hand 8	Stephen drew a King of Spades and the Computer drew a 9 of Clubs.	Stephen wins	
Hand 9	Stephen drew a 6 of Spades and the Computer drew a 2 of Hearts.	Stephen wins	
Hand 10	Stephen drew a 9 of Hearts and the Computer drew a 7 of Hearts.	the Computer wins	
Hand 11	Stephen drew a 9 of Spades and the Computer drew a 4 of Spades.	the Computer wins	
Hand 12	Stephen drew a Queen of Diamonds and the Computer drew a 3 of Diamonds.	the Computer wins	
Hand 13	Stephen drew a 8 of Diamonds and the Computer drew a 7 of Spades.	the Computer wins	
Hand 14	Stephen drew a Jack of Hearts and the Computer drew a 10 of Diamonds.	the Computer wins	
Hand 15	Stephen drew a King of Diamonds and the Computer drew a Queen of Hearts.	Stephen wins	
Hand 16	Stephen drew a Queen of Clubs and the Computer drew a 3 of Spades.	Stephen wins	

This page says
Stephen wins with a score of 15 to 11

OK

Console

Hand	Stephen's Hand	Computer's Hand	Winner
Hand 12	Stephen drew a Queen of Diamonds and the Computer drew a 3 of Diamonds.	the Computer wins	
Hand 13	Stephen drew a 8 of Diamonds and the Computer drew a 7 of Spades.	the Computer wins	
Hand 14	Stephen drew a Jack of Hearts and the Computer drew a 10 of Diamonds.	the Computer wins	
Hand 15	Stephen drew a King of Diamonds and the Computer drew a Queen of Hearts.	Stephen wins	
Hand 16	Stephen drew a Queen of Clubs and the Computer drew a 3 of Spades.	Stephen wins	
Hand 17	Stephen drew a 7 of Clubs and the Computer drew a 2 of Diamonds.	Stephen wins	
Hand 18	Stephen drew a Ace of Clubs and the Computer drew a 8 of Clubs.	the Computer wins	
Hand 19	Stephen drew a King of Hearts and the Computer drew a 8 of Hearts.	Stephen wins	
Hand 20	Stephen drew a 10 of Clubs and the Computer drew a 4 of Hearts.	the Computer wins	
Hand 21	Stephen drew a Ace of Hearts and the Computer drew a 5 of Spades.	Stephen wins	
Hand 22	Stephen drew a Queen of Spades and the Computer drew a 9 of Diamonds.	Stephen wins	
Hand 23	Stephen drew a 3 of Hearts and the Computer drew a 2 of Clubs.	the Computer wins	
Hand 24	Stephen drew a 6 of Clubs and the Computer drew a 4 of Diamonds.	Stephen wins	
Hand 25	Stephen drew a 10 of Spades and the Computer drew a 8 of Spades.	Stephen wins	
Hand 26	Stephen drew a Jack of Diamonds and the Computer drew a 4 of Clubs.	Stephen wins	