



COMP2132 ASSIGNMENT 05

OBJECTIVES

Create and use custom Javascript Objects.

DUE DATE

Assigned during session05, before session06.

REQUIREMENTS

Use the file named **assignment05-start.js** (provided with this assignment) to get started. This assignment can be completed in three stages: Students should complete stage 1 before proceeding to the 2nd stage, and complete that before stage 3. Take note of the comments in the provided .js file and follow the suggestions they provide for what to code and where.

STAGE 1 - Card

Define a constructor function or class for representing a playing **Card**. The constructor must require the following three parameters:

- **face** eg: "9", "10", "Jack"
- **value** eg: 9, 10, 10 (an ace would get a value of 1)
- **suit** eg: "Diamond", "Spade", "Club", "Heart"

Include with the **Card** Object a function called **describeSelf()** that will return a string description following this format: "FACE of SUITS. Value: VALUE" eg: "King of Hearts. Value: 10".

Instantiate a single **Card** object for a King of Hearts (or any card of your choice), invoke the **describeSelf()** function on the **Card** and display the results to the browser.

STAGE 2 - Deck

Update the constructor that has already been defined for the **Deck** class so that it will instantiate the 52 **Card** Objects required to populate a **Deck**. Due to the limitations of function scope, you may need to use nested 'for' loops (instead of nested **forEach()** loops) with the arrays already defined for you. Each new Card Object instantiated should be added to the Deck variable array named cards using the **Array.push()** function.

Instantiate a new **Deck**, **shuffle()** the cards and run several rounds of the **dealCard()** then **describeSelf()** functions, displaying the results to the web browser each time.

STAGE 3 - Player

Define a constructor function or class for representing a Player object:

- The constructor should require a string parameter that will represent the player's name.
- The constructor should initialize an empty array for storing one or more Cards. This array will represent the Player's 'hand' in a card game.

Include with the Player object definition some functions for the following:

- **addCardToHand(aCard)** this function requires a **Card** Object as parameter and will use `Array.push()` to add the **Card** Object to the **Player's** 'hand'
- **describeSelf()** this function should return a string that includes the **Player's** name and an HTML list of all the **Cards** in the **Player's** hand

Instantiate at least two new **Player** Objects, giving each a different name. Instantiate a new **Deck** object and **shuffle()** it. Use **dealCard()** to draw **Card** objects from the **Deck**, and add the drawn **Cards** to the **Players** with **addCardToHand()** to deal five cards to each player, then invoke the **describeSelf()** functions of both **Players** and display the results to the browser, showing the hand dealt to each.

Remember: The Assignment01 DESIGN and CODE QUALITY requirements apply to this and all future COMP 2132 assignments.

BONUS

Additional challenge, NOT REQUIRED: Change the **describeSelf()** functions of **Card** Objects to display an appropriate card image instead of plain text. For example, instead of displaying the text description "Eight of Hearts, Value: 8" display an image of the associated playing card and insert a text description as the value of the `` tag's alt attribute. See *card_images/* provided with this assignment for a collection of suitable images to use. Be sure to apply some CSS to reduce the size of the card images and maybe to present the **Cards** in each **Player's** hand on a well styled 'table'.

SUBMISSION

Before the due date, compress all assignment resources (HTML, CSS, JS, images, folders, etc) into a single **.ZIP**. Upload **.ZIP** to

learn.bcit.ca > Activities > Assignments> Assignment05 Dropbox