

Homework 1

“JavaScript and the DOM manipulation”

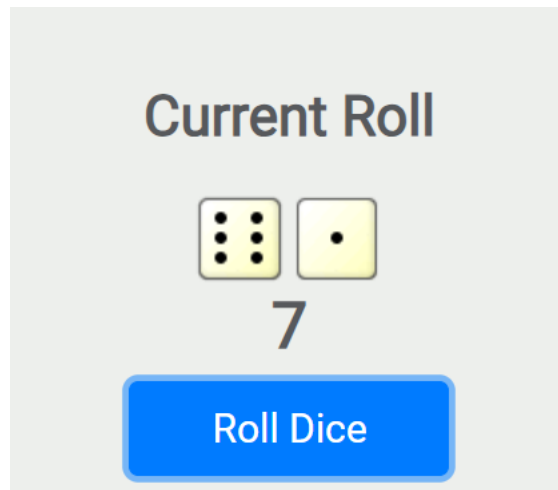
The following problem set is worth 100 points total. Please submit a zip file containing all relevant code to the Canvas drop box by the due date of the assignment.

Requirements

This first problem set will get you familiar with JavaScript as well as the manipulation of the DOM. You will be creating two games.

Craps (25pts)

You’ll be implementing a JavaScript version of the casino game called **Craps**:



With this game you are given two dice to roll. You’ll need to consider two outcomes:

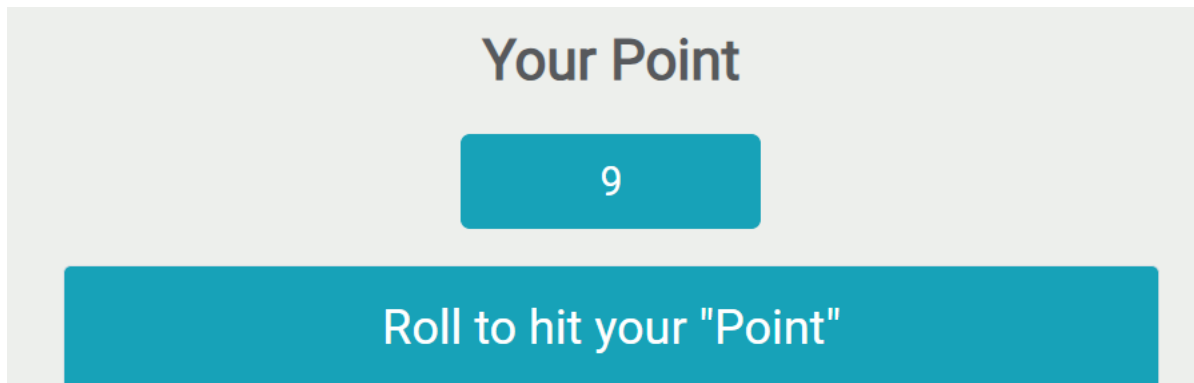
1. The initial roll of the dice
2. Subsequent rolls of the dice

The first roll of the dice is important. If the initial roll is either 7 or 11, the player **wins**. If the initial roll is either 2, 3, or 12 the player **loses**. If it’s either of those two numbers, you’ll need to store that initial roll as the player’s point.

Let’s assume that initially I roll a **nine**.



This isn't one of the two deciding cases listed above, so you'll need to record this as the player's point.



From here the player will continue to roll dice until the following outcomes happen:

- You'll roll the point once again. In this case the player **wins**.
- You'll roll a seven. In this case the player **loses**.

Feel free to include royalty-free graphics for your games and use any technique you would like to implement. For additional fun, you might want to add counters showing the number of games that the player has won and the number of games that the player has lost.

Uno (75 pts)

The second part of this assignment is to implement a JavaScript version of the game *Uno*:



Rules of the game

Uno is meant to be played with multiple players; it is **not** a single-player game. With that stated, you are to create an interactive game where the player and the computer exchanges cards.

In a deck of Uno cards, there are 108 cards. We'll go over those in detail shortly, but for appearance purposes here are the cards in full display:



Initially both you and the computer will be dealt **seven** cards. From here the rules are as follows:

- After the two hands are dealt, the remaining cards are placed in the center of the table face down (this is called the **draw pile**).
- You will remove the top card and display it. This top card will be the start of something called the **discard pile**.
- You and the computer will then alternate turns. When it's your turn, you can play any card in your hand that matches the number, symbol, or color on the top of the discard pile.

- For instance, if the discard pile has a green 6, you can play a red 6, a green 4, etc.
- If you are unable to play a card, you must draw a card from the draw pile.
- Eventually the game ends when either player has no cards remaining.

For more details how to play the game you can read the following: <https://www.wikihow.com/Play-UNO>.

Implementation Details

For your JavaScript game, when building your deck of cards, you can only focus on the numbered color cards. Create an interactive Uno game where both you and the player are dealt seven cards initially, and the game plays out until either you or the computer run out of cards in your hand.

Extra Credit (5pts)

If you want to add more challenges to your game, include wild cards, reverse cards, and skip cards to your Uno deck (to get the full 108 total of cards.)

Submission Requirements

For the submission, submit a zip file with all assets needed for me to run your two applications. Feel free to use any technique used in class (either DOM manipulation or jQuery.) Submit using the Canvas drop box before the due date.