Name: _____

ITP 301: Interactive Web Development
Spring 2016 Practical Midterm

Practical Test B (100 points)
Time: 80 minutes
This is a NO INTERNET exam. You may refer to your notes & assignments.

Overview:

For this section of the exam, you will implement simple Book Inventory page. You are given following files:

1. `midterm.html`   all the HTML and CSS is here.
2. `main.js`   all your JavaScript / jQuery code will go here.
3. `jquery-1.12.1.js`   latest jQuery library.

Users will be able to enter book information (title, author, publication year) and add it to the inventory. They can also retrieve / display all books to the screen in 2 different formats. You will need to implement those functionalities and validate all user input. All books are stored as objects inside an array. You are allowed to use JavaScript and jQuery.

Requirements:

1. Load *local* jQuery (`jquery-1.12.1.js`) and `main.js` to HTML page.
2. You can modify HTML file (add elements, classes, IDs, etc.), but all your JavaScript / jQuery code needs to go inside `main.js`.
3. All messages (confirmation, error, etc.) must go inside `<div id="msg"></div>`.
    a. Use jQuery to `fadeIn()` messages, then `fadeOut()` after 2 seconds.
    b. All error messages must be in red (`#F00`).
    c. All confirmation messages must be green (`#0B0`).
4. Create an empty array to store books.
5. When user clicks "Add Book":
    a. Save all user input
        i. Sanitize data to remove any leading and trailing spaces.
        ii. Only title and year are required inputs.
        iii. Author is an optional field.
        iv. You can assume year is always given in YYYY format.
        v. If any of the required fields are missing, display the following <u>error</u> message: *"Title and year are required fields."*
    b. Create a book object with following properties and methods:

Property: title	Store title as a string.
Property: author	If author is provided, create this property and store author as a string. If no author provided, <u>do not</u> create this property.
Property: year	Store year as an <u>integer</u>.
Method: getBookInfo()	Return a string containing book information in following format: *"[title] by [author] ([year])"* Example: *"To Kill a Mockingbird by Harper Lee (1960)"*

   c. Save book object into the array created in step 4.
   d. Upon successful save, display the following <u>confirmation</u> message:
      i. *"[title] was successfully added."*
      ii. Example: *"To Kill a Mockingbird was successfully added."*
      iii. Do not worry about duplicate entries.
6. When user clicks "List All Books":
   a. List all books inside `<ol id="bookList"></ol>` in the following format:
      i. *"[title] ([year])."*
      ii. Example: *"To Kill a Mockingbird (1960)."*
   b. If no books are found, display the following <u>error</u> message *"No books found."*
7. When user clicks "List Books with Authors":
   a. Inside `<ol id="bookList"></ol>`, only list books that have *author* property using `getBookInfo()` method created in step 5.b.
   b. <u>Do not</u> list books not containing *author* property.

Hints:

1. You can start without animation in step 3 (partial credit), then add it later.
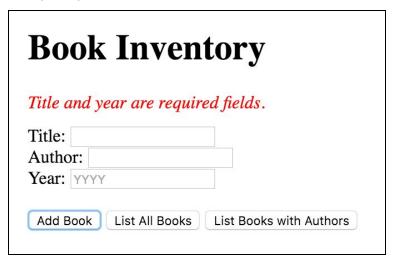
Submission:

1. Submit *all* your files on Blackboard under *Assignments -> Midterm: Practical*.
2. **<u>Submission closes at 6:25 PM; no submissions will be accepted after this time.</u>**
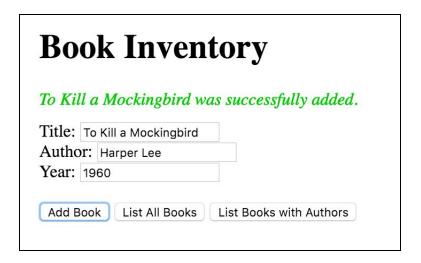
Examples:

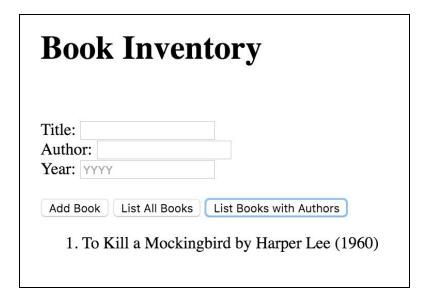1. Clicking "List All Books" with empty array:

2. Adding empty entry:

3. Adding *"To Kill a Mockingbird"*:

4. Adding *"The Lord of the Rings"* without an author:

5. Clicking "List All Books" button:

Book Inventory

Title: [_____]
Author: [_____]
Year: [YYYY]

[Add Book] [List All Books] [List Books with Authors]

    1. To Kill a Mockingbird by Harper Lee (1960)

6. Clicking "List Books with Authors" button:

Book Inventory

Title: [_____]
Author: [_____]
Year: [YYYY]

[Add Book] [List All Books] [List Books with Authors]

    1. To Kill a Mockingbird (1960)
    2. The Lord of the Rings (1954)