CMPS 350 – Web Development Fundamentals
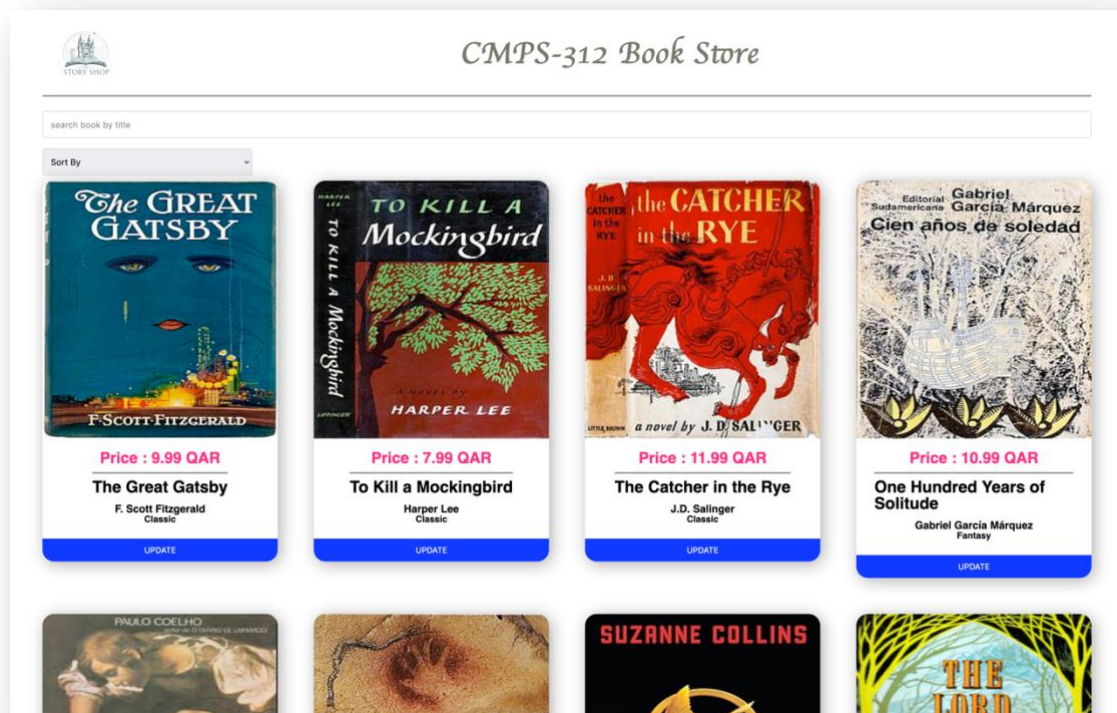
Practical Midterm Exam

- The exam duration is 120 minutes. So, read the exam questions carefully and plan your time accordingly.
- Push your code to GitHub regularly (at least every 30 minutes) to avoid unpleasant surprises, as your computer might hang!
- The Exam is an open book. In case of plagiarism, both parties will receive 0 points. Hence do not share or receive any code from anyone.
- Once you complete the exam, you should:
  - Add a screenshot for each question to the provided testing sheet.
  - Push your code and testing sheet to your GitHub repo under **midterm** subfolder.
  - Demo your work before leaving the Exam.

<u>Book App</u>

In this exam, you will apply your frontend web development skills to build a book store web app that displays books in a grid. The UI design is provided in the figure below and a demo of the app will be shown at the start of the exam.
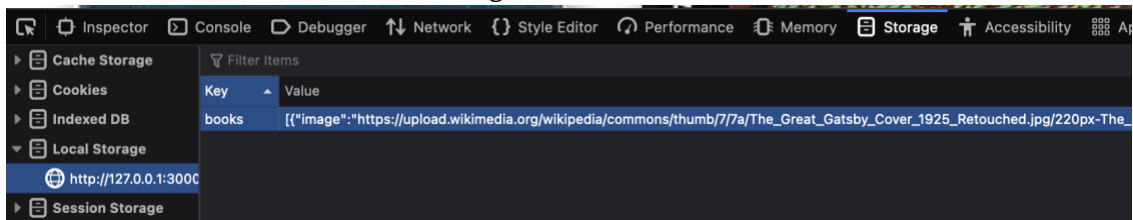
<u>Implementation Tasks:</u>

1. **[30 pts]** When the page loads, retrieve book data from the <u>following API</u> and display them in a grid of cards as shown in the image below. The book card should display the Book Cover Image, Book Title, Author, Genre and Price.
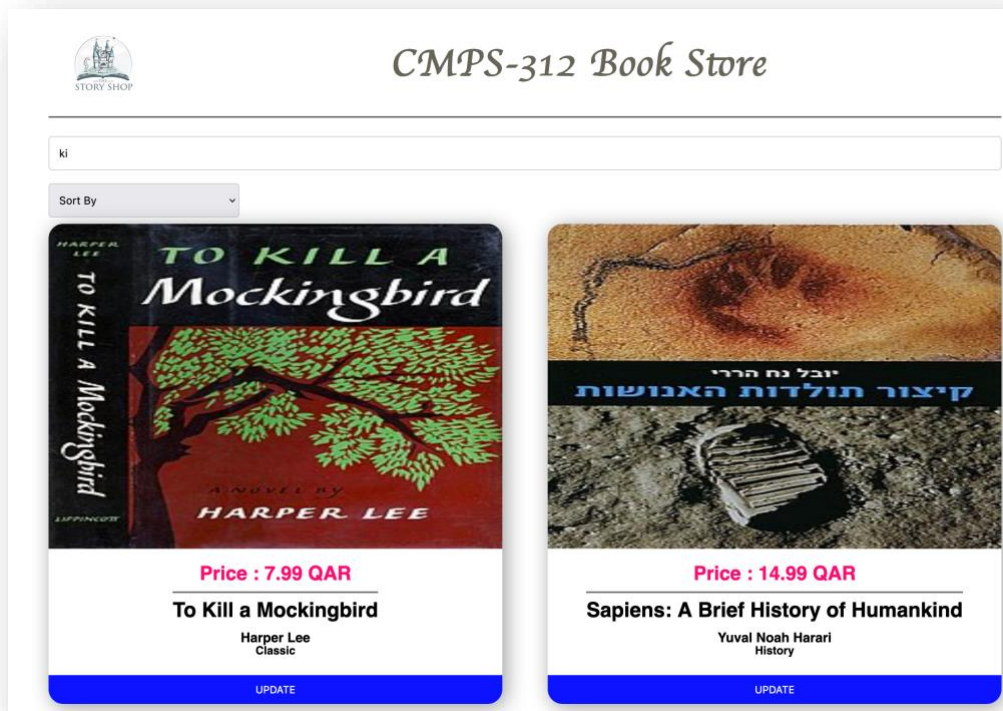
2. **[15 pts] Caching Book Data in Local Storage**
Improve your app performance by caching the book data in the local storage. When you retrieve the book data, save it to the local storage. Subsequent visits should first read the data from the local storage. Fetch from the remote Web API **only if the book** data is not available in the local storage.
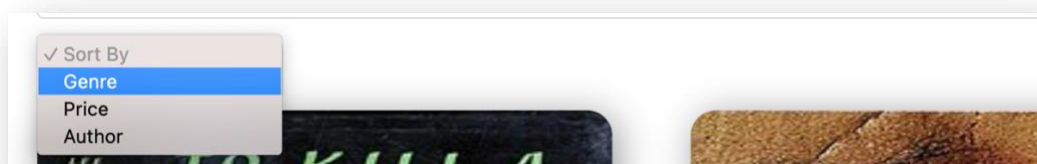

3. **[15 pts] Search for Books:** add a search bar to allow users to search for books by book title. The search should filter the books dynamically as the user types. The book cards that match the search should be displayed in the grid, while the others are hidden.

Eg. If you type "Ki", it will identify the books containing the term "ki," such as these two.

4. **[15 pts]** Add **Sorting** ability to allow sorting books by **genre**, **price** and **author**. Use a drop-down to select the genre option.

5. **[25 pts] Update Book Details**: within the book card, add an "Update" button that loads a form for updating the book details. The form should have input fields for [**Book Title**, **Author**, **Genre**, **Price**, and **ISBN**]. As soon as the form loads you should populate the data of the book you are editing as shown in the figure below. When the user clicks the "Save" button, the book details should be updated and displayed in the grid.