

REFILWE NQATYELWA

IWA_19 Capstone

ABOUT IWA_19 CAPSTONE

I was required to do a full audit of the existing javascript code as well as fix all critical issues, The goal is to highlight areas where improvements can be made to performance, readability and future maintainability.

I had a week to make sure that the user story is provided is met so that the app can work as intended.

CONTENTS

Exports and Imports.

2. Const.

3. Error Message.

4. Fragment.

5. Genres.

6 Authors.

7. Show More Books.

8. Search Button

```
index.html | styles.css | JS scripts.js M X | JS data.js X | ...
JS scripts.js > ...
1 //imported these from the data.js file
2 import { books, authors,
  BOOKS_PER_PAGE, genres } from './data.
  js';
3
4
5
6
7
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9
10
11

JS data.js > ...
1 // added const to these variables and e
2 export const BOOKS_PER_PAGE = 36;
3
4 > export const authors = { ...
  92 }
  93
  94 > export const genres = { ...
  163 }
  164
  165 > export const books = [ ...
  25413 ]
  25414

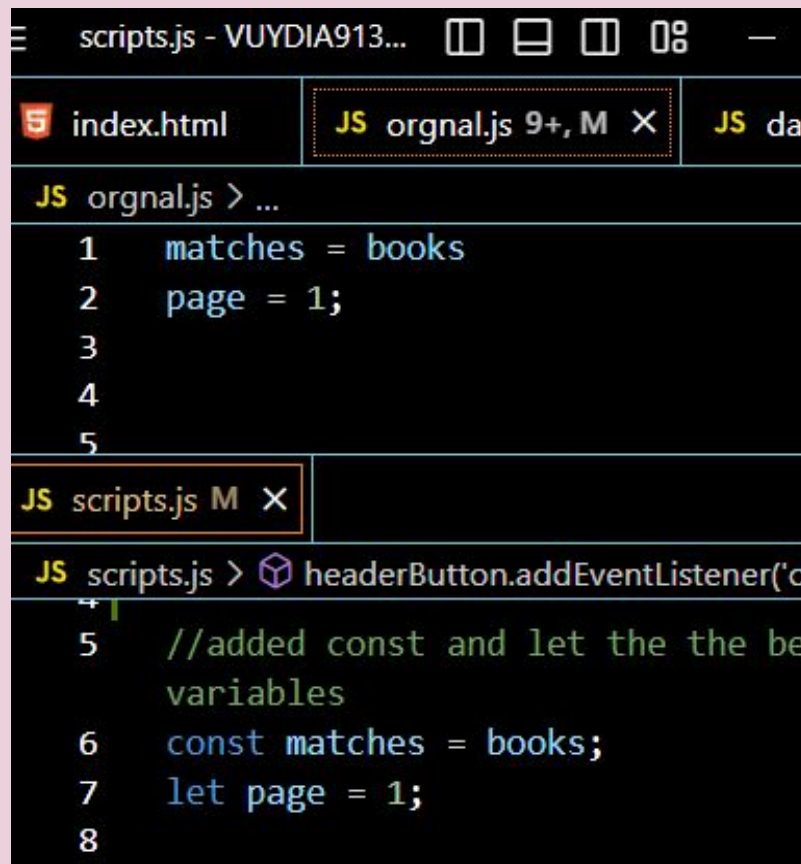
JS orgnal.js 9+, M X | ...
JS orgnal.js > ...
1 matches = books
2 page = 1;
3
4
```

EXPORTS AND IMPORTS

- 'BOOKS_PER_PAGE, books, authors, and genres' have to be imported from the 'data.js file'.
- Added 'const' and 'export' to BOOKS_PER_PAGE, books, authors, and genres.

EXAMPLE OF CONST

- Added 'const' to 'matches' on the 'scripts.js' file so that the variable can be defined.



```
scripts.js - VUYDIA913...  
index.html JS orgnal.js 9+, M X JS da  
JS orgnal.js > ...  
1 matches = books  
2 page = 1;  
3  
4  
5  
JS scripts.js M X  
JS scripts.js > headerButton.addEventListener('c  
4  
5 //added const and let the the be  
variables  
6 const matches = books;  
7 let page = 1;  
8
```

EXAMPLE OF AN ERROR MESSAGE

```
//scripts.js
// display message if no books match filters
if (filteredBooks.length > 0) {
  document.querySelector('[data-list-message]').innerText =
  '';
  document.querySelector('[data-list-button]').disabled =
  true;
  document.querySelector('[data-list-message]').style.marginTop = '-125px';
} else {
  document.querySelector('[data-list-message]').innerText =
  'No results found. Your filters might be too narrow.';

  document.querySelector('[data-list-button]').disabled =
  true;
}

//orgnal.js
if (!books && !Array.isArray(books)) throw new
Error('Source required');
if (!range && range.length < 2) throw new
Error('Range must be an array with two numbers');
```

- This code checks if any books have passed the filters by checking the length of the `filteredBooks` array.
- If there are filtered books, it sets the text content of an element with the `[data-list-message]` attribute to an empty string, disables a button with the `[data-list-button]` attribute, and adjusts the margin of the `[data-list-message]` element.
- If there are no filtered books, it sets the text content of the `[data-list-message]` element to a message that tells the user that there are no results based on their filter criteria, and disables the `[data-list-button]` button.

FRAGMENT

- Added 'let' to 'fragment' as it will be changing.
- Fixed errors on the 'const' objects of the extracted and added 'let' to the fragment variable.
- Fixed the for loop syntax by removing the ';' and added 'of' for readability.
- The 'const preview' removed to be more clean and readable.
- Fixed the syntax and wrote code in a more correct and readable way.

```
JS orignal.js > ...
19
20
21
22
23 fragment = document.
   createDocumentFragment()
24 const extracted = books.slice(0,
   36)
25
26
27 for ({ author, image, title,
   id }; extracted; i++) {
28     const preview = createPreview
   ({
29         author,
30         id,
31         image,
32         title
33     })
34
35     fragment.appendChild(preview)
36 }
37
38 data-list-items.appendChild
   (fragment)
39
40
41
42
43
44
45
46
47
48
49

JS scripts.js > headerButton.addEventListener("click", () => {
9
10 // Showing 36 Books Per Page
11 let fragment = document.
   createDocumentFragment(); //
   added let to the fragment
12 const extracted = books.slice(0,
   36);
13
14
15 /**
16  * fixed errors on the const and
   added 'let' to the fragment
   variable
17  * fixed the syntax by removing
   the ';' and added 'of' on the
   for
18  * the const preview was
   re-ordered in a more readable
   manner
19  */
20
21 for (const { author, title,
   image, id } of extracted) {
22     const preview = createPreview
   ({ author, id, image,
   title });
23     fragment.appendChild
   (preview);
24 }
25 //fixed the syntax and wrote
   code in a more readable way
26 document.querySelector("
   [data-list-items]").appendChild
   (fragment);
27
28
```

GENRES

JS orgnal.js > ...

```
49
50 genres = document.
  createDocumentFragment()
51 element = document.createElement
  ('option')
52 element.value = 'any'
53 element = 'All Genres'
54 genres.appendChild(element)
55
56
57 for ([id, name]; Object.entries
  (genres); i++) {
58   document.createElement('option')
59   element.value = value
60   element.innerText = text
61   genres.appendChild(element)
62 }
63
64 data-search-genres.appendChild
  (genres)
65
66
67
68
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70
71
72
73
74
75
76
77
```

JS scripts.js > headerButton.addEventListener('click') callback

```
230
231
232 // Drop Down for Genres
233 const dataSearchGenres = document.
  querySelector("[data-search-genres]");
234 const allGenresOption = document.
  createElement("option");
235   allGenresOption.value = "any";
236   allGenresOption.innerText = "All
  Genres";
237   dataSearchGenres.appendChild
    (allGenresOption);
238   for (const [id, names] of Object.entries
    (genres)) {
239     const element = document.
      createElement("option");
240     element.value = id;
241     element.innerText = names;
242     dataSearchGenres.appendChild
      (element);
243   }
244
245   for (const [id, names] of Object.entries
    (genres)) {
246     const element = document.
      createElement("option");
247     element.value = id;
248     element.innerText = names;
249     dataSearchGenres.appendChild
      (element);
250   }
251
252
```

- Line `element = 'All Genres'` should be `element.innerText = 'All Genres'` to set the text of the option element.
-
- Fixed code in the line `'element' = 'All Genres'` should be `'element.innerText' = 'All Genres'` to set the text of the option element.
- Changed a `for...of` loop to iterate through the key-value pairs in the `genres` object for the code to use `'Object.entries'` to create an array of key-value pairs, and then uses a `'for...of` loop' to iterate through that array.
- Changed the `'var'` to be `'const'`, to declare the loop variables.

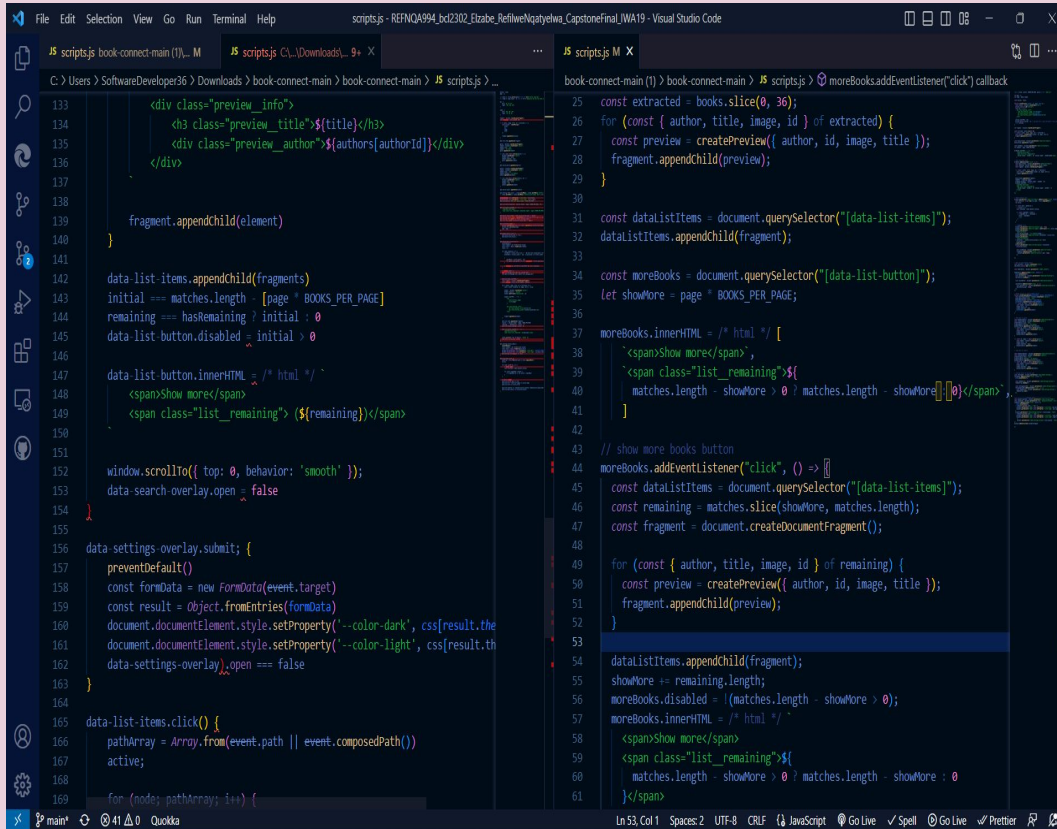
AUTHORS

- Changed the variable names.
- Added the correct attribute, instead of 'option', to ('[data-search-authors]')
- Changed a for...of loop to iterate through the key-value pairs in the genres object for the code to use 'Object.entries' to create an array of key-value pairs, and then uses a 'for...of loop' to iterate through that array.
- Fixed the for...of loop and repeated the same code as for the genre code.
- Used 'dataSearchAuthors' as an element that will be added instead of 'data-search-authors'.

```
JS original.js > ...
66
67 authors = document.
   createDocumentFragment()
68 element = document.createElement
   ('option')
69 element.value = 'any'
70 element.innerText = 'All Authors'
71 authors.appendChild(element)
72
73
74 for ([id, name]; Object.entries
   (authors); id++) {
75   document.createElement
   ('option')
76   element.value = value
77   element = text
78   authors.appendChild(element)
79 }
80
81 data-search-authors.appendChild
   (authors)
82

JS scripts.js > ...
252
253 // Drop down for authors
254 const dataSearchAuthors = document.
   querySelector("[data-search-authors]");
255 const allAuthorsOption = document.
   createElement("option");
256 allAuthorsOption.value = "any";
257 allAuthorsOption.innerText = "All
   Authors";
258 dataSearchAuthors.appendChild
   (allAuthorsOption);
259 > for (const [id, names] of Object.
   entries(authors)) { ...
260 }
261
262
263
264
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267
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272
```

SHOW MORE BOOKS



```

133 <div class="preview_info">
134   <h3 class="preview_title">${title}</h3>
135   <div class="preview_author">${authors[authorId]}</div>
136 </div>
137
138
139 fragment.appendChild(element)
140 }
141
142 data-list-items.appendChild(fragments)
143 initial == matches.length - [page * BOOKS_PER_PAGE]
144 remaining == hasRemaining ? initial : 0
145 data-list-button.disabled = initial > 0
146
147 data-list-button.innerHTML = /* html */ `
148   <span>show more</span>
149   <span class="list_remaining"> ${remaining}</span>
150 `
151
152 window.scrollTo({ top: 0, behavior: 'smooth' });
153 data-search-overlay.open = false
154 }
155
156 data-settings-overlay.submit; {
157   preventDefault()
158   const formData = new FormData(event.target)
159   const result = Object.fromEntries(formData)
160   document.documentElement.style.setProperty('--color-dark', css[result.the])
161   document.documentElement.style.setProperty('--color-light', css[result.th])
162   data-settings-overlay.open == false
163 }
164
165 data-list-items.click() {
166   pathArray = Array.from(event.path || event.composedPath())
167   active;
168
169   for (nodes; pathArray; i++) {

```

```

25 const extracted = books.slice(0, 36);
26 for (const { author, title, image, id } of extracted) {
27   const preview = createPreview({ author, id, image, title });
28   fragment.appendChild(preview);
29 }
30
31 const dataListItems = document.querySelector("[data-list-items]");
32 dataListItems.appendChild(fragment);
33
34 const moreBooks = document.querySelector("[data-list-button]");
35 let showMore = page * BOOKS_PER_PAGE;
36
37 moreBooks.innerHTML = /* html */ [
38   '<span>show more</span>',
39   '<span class="list_remaining">${
40     matches.length - showMore > 0 ? matches.length - showMore : 0
41   }</span>',
42 ]
43
44 // show more books button
45 moreBooks.addEventListener("click", () => {
46   const dataListItems = document.querySelector("[data-list-items]");
47   const remaining = matches.slice(showMore, matches.length);
48   const fragment = document.createDocumentFragment();
49
50   for (const { author, title, image, id } of remaining) {
51     const preview = createPreview({ author, id, image, title });
52     fragment.appendChild(preview);
53   }
54
55   dataListItems.appendChild(fragment);
56   showMore += remaining.length;
57   moreBooks.disabled = (matches.length - showMore > 0);
58   moreBooks.innerHTML = /* html */ `
59     <span>show more</span>
60     <span class="list_remaining">${
61       matches.length - showMore > 0 ? matches.length - showMore : 0
62     }</span>

```

- Added a let to fragment as it will be changing.
- The "showMore" variable tracks the number of items currently displayed and updates accordingly with each click. The "moreBooks" button is disabled if all book items have been displayed and its text changes to reflect how many items remain to be displayed.
- The "showMore" variable tracks the number of items currently displayed and updates accordingly with each click. The "moreBooks" button is disabled if all book items have been displayed and its text changes to reflect how many items remain to be displayed.
- // handle preview click is where i set the event listener for click events and searches through an array to find books that matches the preview dataset value, if it matches it populates the ovalay with the matched book element.

SEARCH BUTTON

```
File Edit Selection View Go Run Terminal Help scripts.js - REFQA94_bcd302_Elabe_RefineVagayewa_CapstoneFinal_JWA19 - Visual Studio Code

JS scripts.js book-connect-main (1) ... M JS scripts.js C:\Downloads\... 9+ X JS scripts.js M X ...

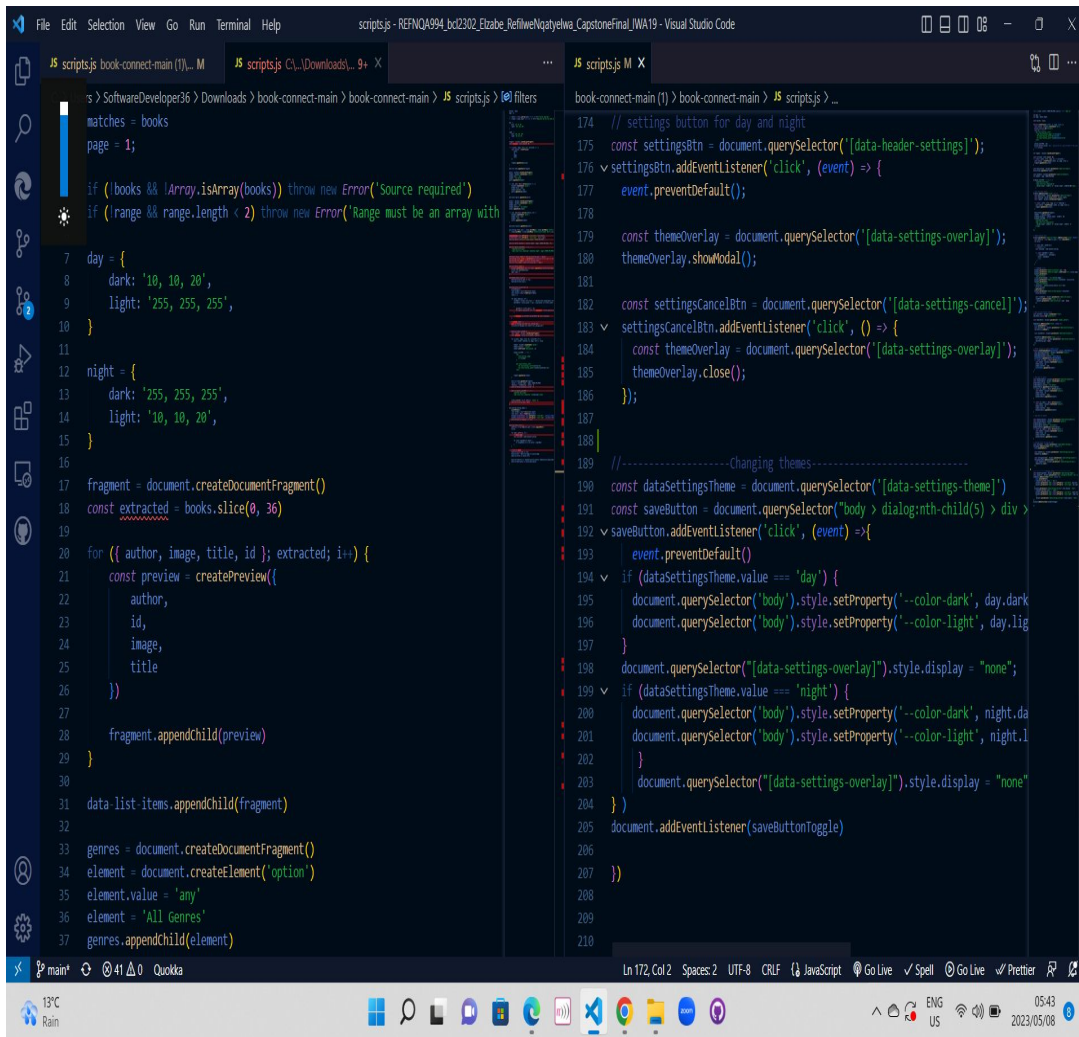
C:\Users > Users > SoftwareDeveloper3 > Downloads > book-connect-main > book-connect-main > JS scripts.js > filters

71
72 data-list-button.innerHTML = `<html> / [
73   '<span>show more</span>',
74   '<span class="list_remaining"> (${matches.length - [page * BOOKS_PER_PAGE
75 ]}
76
77 data-search-cancel.click() { data-search-overlay.open === false }
78 data-settings-cancel.click() { querySelect(data-settings-overlay).open === fa
79 data-settings-form.submit() { actions.settings.submit }
80 data-list.close.click() { data-list-active.open === false }
81
82 data-list-button.click() {
83   document.querySelector([data-list-items]).appendChild(createPreviewFrags
84   actions.list.update@remaining()
85   page = page + 1
86 }
87
88 data-header-search.click() {
89   data-search-overlay.open === true ;
90   data-search-title.focus();
91 }
92
93 data-search-form.click(filters) {
94   preventDefault()
95   const formData = new FormData(event.target)
96   const filters = object.fromEntries(formData)
97   result = []
98
99   for (book; booksList; i++) {
100     titleMatch = filters.title.trim() = '' && book.title.toLowerCase().in
101     authorMatch = filters.author = 'any' || book.author === filters.autho
102
103     {
104       genreMatch = filters.genre = 'any'
105       for (genre; book.genres; i++) { if singleGenre = filters.genre }
106     }
107
108
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```

- Created a search overlay form
- When button is clicked the search overlay is opened by calling its shoModal() method.
- The code allows the user to search for books either by any, genre or authour.
- The cancel button also has an event listener. When it is clicked, the event listener retrieves the search overlay element again and sets its "open" attribute to false, which closes the search overlay.
- The helper function is for the dropdown, the element takes the parent element to be added to the dropdownThe function creates an option element for the default option with a value of "any" and adds it to the parent element. It then iterates through the object of options and creates an option element for each option with a value of the option's id and text content of the option's name. These option elements are added to the parent element.

SETTING BUTTON

Using an if statement the settings button that toggles between day and night themes on a webpage. When the settings button is clicked, an overlay dialog is displayed. The user can then select a theme by clicking on either the day or night option. When the user clicks on the save button, the selected theme is applied to the webpage by changing the background colors of the page. Finally, the overlay dialog is closed.



```
File Edit Selection View Go Run Terminal Help
scripts.js - REFNQA994_bx2302_Etazbe_RefiliveNgatylwa_CapstoneFinal_WA19 - Visual Studio Code

JS scripts.js book-connect-main (1)... M JS scripts.js C:\...Downloads\... 9+ X JS scripts.js M X

s > SoftwareDeveloper36 > Downloads > book-connect-main > book-connect-main > JS scripts.js > filters
matches = books
page = 1;

if (!books || !Array.isArray(books)) throw new Error('Source required')
if (!range || range.length < 2) throw new Error('Range must be an array with

7 day = {
8   dark: '10, 10, 20',
9   light: '255, 255, 255',
10 }
11
12 night = {
13   dark: '255, 255, 255',
14   light: '10, 10, 20',
15 }
16
17 fragment = document.createDocumentFragment()
18 const extracted = books.slice(0, 36)
19
20 for (({ author, image, title, id }; extracted, i++) {
21   const preview = createPreview({
22     author,
23     id,
24     image,
25     title
26   })
27   fragment.appendChild(preview)
28 }
29
30 data list-items.appendChild(fragment)
31
32 genres = document.createDocumentFragment()
33 element = document.createElement('option')
34 element.value = 'any'
35 element = 'All Genres'
36 genres.appendChild(element)
37

book-connect-main (1) > book-connect-main > JS scripts.js > ...
174 // settings button for day and night
175 const settingsBtn = document.querySelector('[data-header-settings]');
176 v settingsBtn.addEventListener('click', (event) => {
177   event.preventDefault();
178
179   const themeOverlay = document.querySelector('[data-settings-overlay]');
180   themeOverlay.showModal();
181
182   const settingsCancelBtn = document.querySelector('[data-settings-cancel]');
183   v settingsCancelBtn.addEventListener('click', () => {
184     const themeOverlay = document.querySelector('[data-settings-overlay]');
185     themeOverlay.close();
186   });
187
188
189 //-----Changing themes-----
190 const dataSettingsTheme = document.querySelector('[data-settings-theme]')
191 const saveButton = document.querySelector("body > dialog:nth-child(5) > div >
192 v saveButton.addEventListener('click', (event) =>{
193   event.preventDefault()
194   v if (dataSettingsTheme.value === 'day') {
195     document.querySelector("body").style.setProperty('--color-dark', day.dark
196     document.querySelector("body").style.setProperty('--color-light', day.lig
197   }
198   document.querySelector("[data-settings-overlay]").style.display = "none";
199   v if (dataSettingsTheme.value === 'night') {
200     document.querySelector("body").style.setProperty('--color-dark', night.da
201     document.querySelector("body").style.setProperty('--color-light', night.l
202   }
203   document.querySelector("[data-settings-overlay]").style.display = "none"
204 } })
205 document.addEventListener(saveButtonToggle)
206
207 })
208
209
210

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```

CONCLUSSION

Ater I have debugged and fixed all the critical issues the app should be able to do all that the user asked for which are the following:

1. As a user, I want to view a list of book previews, by title and author, so that I can discover new books to read.
2. As a user, I want an image associated with all book previews so that I can recognize a book by the cover even if I forgot the name.
3. As a user, I want to have the option of reading a summary of the book so that I can decide whether I want to read it.
4. As a user, I want to have the option of seeing the date that a book was published so that I can determine how easy it is to obtain second-hand.
5. As a user, I want to find books based on specific text phrases so that I don't need to remember the entire title of a book.
6. As a user, I want to filter books by author so that I can find books to read by authors that I enjoy.
7. As a user, I want to filter books by genre so that I can find books to read in genres that I enjoy.
8. As a user, I want to toggle between dark and light modes so that I can use the app comfortably at night.