Objective:

Study how to interact with the DOM via JavaScript and extend the task from the "HTML, CSS" section to add a side panel to it.

Theory:

- Read https://javascript.info/ (Part 2)
- Watch this video about the event loop
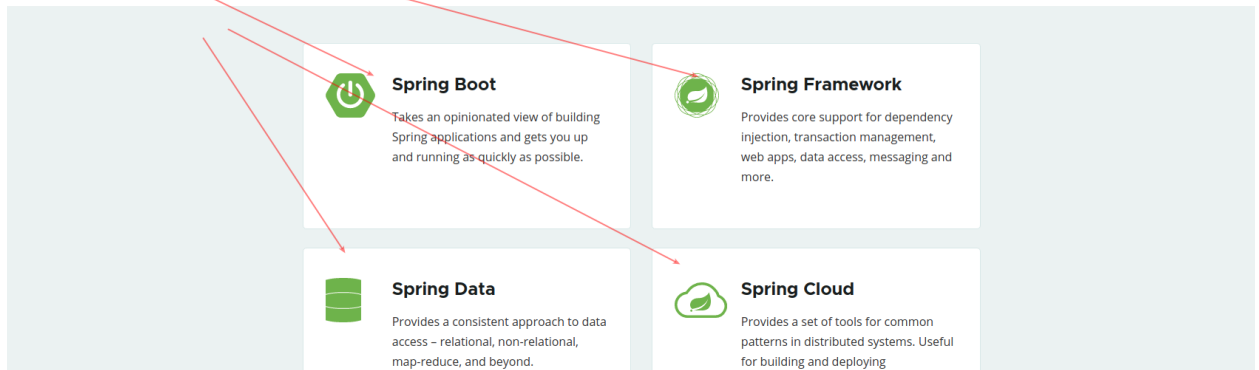- Read about linters https://eslint.org/

Task:

Deadline: 5 days

Requirements:

1. Expand on your website from the "HTML, CSS" task.
2. Add eslint
3. Implement open/hide of a side panel panel for width <= 900px (same resolution as in https://spring.io).
4. Items shown under the `Projects` block must be displayed from an array of objects in JS (not in HTML). It means adding a new item is simply adding an object to the array.
5. Items shown in the header (Why Spring, Learn, etc.) must be displayed from an array of objects in JS (not in HTML, and the same for the mobile version where these items are shown in the burger menu).

Projects

From configuration to security, web apps to big data—whatever the infrastructure needs of your application may be, there is a Spring Project to help you build it. Start small and use just what you need—Spring is modular by design.

Spring Boot

Takes an opinionated view of building Spring applications and gets you up and running as quickly as possible.

Spring Framework

Provides core support for dependency injection, transaction management, web apps, data access, messaging and more.

Spring Data

Provides a consistent approach to data access – relational, non-relational, map-reduce, and beyond.

Spring Cloud

Provides a set of tools for common patterns in distributed systems. Useful for building and deploying

6. Add a search input (position is shown in the image below, design is your choice but make it beautiful). The input must filter items on the screen by title or description. If a user types something that doesn't match any item, display the text "No results" instead of items.

Projects

From configuration to security, web apps to big data—whatever the infrastructure needs of your application may be, there is a Spring Project to help you build it. Start small and use just what you need—Spring is modular by design.

Add search input here. Design is on your choice

Spring Boot

Takes an opinionated view of building Spring applications and gets you up and running as quickly as possible.

Spring Framework

Provides core support for dependency injection, transaction management, web apps, data access, messaging and more.

7. The "search" should be applied only after 0.3 seconds when the user stops typing, not just on every onChange event.

Notes:
-   Do not use the insertAdjacentHTML function.

Questions:
1. What are macrotasks and microtasks?
2. *setTimeout, setInterval*: how do they work? What happens if the second argument is 0 (zero milliseconds)?
3. Explain browser event flow (capturing phase, target phase, and bubbling).
4. How to add an event listener on the capturing phase?
5. What are event listeners? How to add an event listener?
6. Explain event bubbling and capturing (event lifecycle).

7. What is the difference between "preventDefault" and "stopPropagation"?
8. Why is it important to unsubscribe from event listeners?
9. What is a regexp and how can it be used?
10. What are the differences between the DOM and shadow DOM?
11. How to find DOM elements by attribute (class, id, tag name)?
12. List all possible ways to insert/update items in the DOM using JavaScript.
13. Explain what linter is and why we need it

Links:
1. [When is it good practice to use stopPropagation()?](#)