

Assignment 6B

Reflection

Throughout the process of constructing the website, I encountered multiple challenges and bugs. The biggest challenge was to store multiple appointments in an array utilizing session storage. To retain user input values while the user navigates between the web pages, I spent a lot of time doing research on what would be the optimal way to store and retrieve data. At first, I tried storing each appointment as an object as we did in the lab; however, it did not go smoothly. Hence, I decided to store all appointments in an array with objects. By studying examples online and related tutorials, I successfully implemented the add-to-cart feature.

Next, the second-hardest part was to implement the limitations of the possible number of appointments made. Following real-world constraints, there must be a maximum number of appointments that can be made by an individual. The logic was straightforward yet the implementation in code requires detailed thoughts. Hence, I made multiple modifications to the code as I was testing the constraint and observing the difference between the generated results. I also struggled with displaying the items (appointments) in the cart (upcoming appointment list). This was similar to working on a coding problem where I would have to fully understand the logic and not only to write the functions that perform the changes but also to place them in the right spots in HTML.

Overall, solving those problems has taught me a lot about what resources to search for as well as where to start debugging when a problem occurs. Most of the time, errors occur either because there are bugs in the functions or the right code is put in the wrong place. Hence, I believe that, through this project, I will be able to solve both logic and technical problems more efficiently and organize code better to keep the workspace clean and easily understandable, which seems trivial but actually helpful when debugging.

Programming Concepts

1. The first programming concept in JavaScript that I learned was understanding the scopes. Similar to all other programming languages, there are global and local scopes: global scopes can be applied to variables defined outside of functions, whereas local scopes apply to code within functions. In this assignment, no local scopes were included in the final code yet I tried utilizing both to store values during the process. For example, I originally defined the array of appointments (objects) globally; however, I realized that it needs to be called (get item & set item) using session storage so it had to go into each function.

2. The second concept I learned was destructuring objects. Objects are commonly used to store data in JavaScript, and to utilize the values effectively, destructuring and retrieving data stored within an object is an essential skill. In my assignment, I stored each appointment as an object. When the appointment's details were displayed, I used a for loop to loop through the object and get the values of type, date, time, and location.

3. The third concept I learned was the array methods in JavaScript. The idea of an array is similar to a list in Python or an array in C. It allows us not only to store objects but also to keep track of the count, which plays an important role in this assignment. Since the system has to track the number of appointments that currently exist in the database and changes often, using an array comes in handy with its functions such as ".length" and adding and removing elements from it.

4. The fourth concept I learned was conditional statements. Conditional statements are the base for the logic and decision-making of creating the HealthConnect portal. They control what functionality takes place based on different circumstances. In my project, I utilized a lot of conditional statements since there were multiple functions where I checked whether the array retrieved from session storage is empty. Due to the restrictions on the number of possible appointments, I also used conditional statements to raise an error alert and terminate the function when the count of current appointments becomes invalid.

5. The last concept I learned was web storage, which is the foundation of the website's overall functionality. In this assignment, I used session storage to preserve data of users' appointments as they navigate through different HTML pages of the website. All the options that user selected from the dropdown menus would be stored in the storage using `sessionStorage.setItem("data", JSON.stringify(data))` and `data = JSON.parse(sessionStorage.getItem("data"))`.