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Assignment 8: Final Project

Github Repository: https://github.com/k8zhao/qpa-calc
Github Pages: https://k8zhao.github.io/qpa-calc/

Note: I have an 'Assets' folder but didn't create individual subfolders for JS/CSS/Images because I only have one JS file, one CSS file, and one image. Additionally, I only have 3 html files so they're all located in the root directory.

Part 1

I built a QPA calculator meant specifically for CMU students because it calculates QPA the way CMU does it. Students can calculate their semester QPA or their overall QPA. They do this by inputting the units of each class they took this semester and their expected grade in the class. This calculator is interesting because it takes into account all previous semesters by asking students to input 2 numbers (units factorable and total points) found in their unofficial academic record in SIO. There is only one other CMU QPA calculator I found online and it doesn't account for previous semesters. In this way, students can see how their expected semester grades affect their current QPA in addition to calculating just their semester QPA.

Part 2
- Inputting 'Units Factorable' and 'Total Points'
    - On the homepage, enter in these numbers in the two input fields and click the 'next' button for the next step. If you don't know where to find these numbers, there are instructions linked above. Clicking the yellow 'unofficial academic record' link will open up a modal that gives specific instructions on how to find these numbers. If you don't have access to these numbers, enter 0 for both and it will calculate your semester QPA, but don't leave these fields blank.
- Plugging in expected grades
    - On the next page, you'll see two fields to enter the units of a class and what you expected to get in that class. The 'units' field is just a number input and for 'expected grade' there is a drop down menu so you can choose between A-D. To add another course, click the gray 'add course' button on the bottom. After you've finished, click the 'calculate' button.
- Recalculate grades
    - You'll see your expected QPA on this next page. There's a personalized message based on whether your expected QPA increased, decreased, or stayed the same. If you'd like to recalculate your qpa by plugging in other grades, click the 'recalculate' button on the bottom and it will bring you back to the calculator.

Part 3

1. I used Bootstrap and Animate.css.
2. I chose Bootstrap because their components made it really easy to put my website together. I wanted to add some animations to make my calculator a bit more fun and youthful since calculating QPA usually occurs at a stressful time for students.
3. I used Bootstrap to help with organization and making everything look uniform. It was especially helpful with the layout because they have classes for different columns. I included animate.css in the result page and made the user's calculated QPA bounce when the page loads.
4. I think Bootstrap helps give my website a cleaner look, which helps with usability. Animate.css makes the calculator more fun and engaging.

Part 4

I had to make some sacrifices because I used Bootstrap so I had to work within their limits, especially with styling. I added a navbar with a link to get back to the home page because I realized while I was testing my website that it was really hard to start all over again if you messed up or wanted to change the 'units factorable' and 'total points'. Instead of having a small question mark icon pop up next to 'units factorable' and 'total points' field on the homepage to guide users on how to input those values, I put all that information in a modal that would open if users clicked on the link 'unofficial academic record'. This gave a cleaner look and was less distracting.

Part 5

I had the most difficulty getting around bootstrap's default styles, especially with padding and color when using their components, but I used '!important' in my style.css to override a lot of their styles. Also, I wanted to compare users' current QPA and their expected QPA to give a personalized message, but it wasn't working correctly because if users didn't fill in the initial 'units factorable' and 'total points' fields on the homepage, their current QPA would save as 'NaN'. Additionally, if they didn't input any grades on the calculator page, their new QPA would also save as 'NaN'. Thus, I had to put in extra precautions and checks in the interface and code for this.