Recap Assignments

JavaScript

This section will test your ability to implement concepts such as arrays, control flow, and higher-order functions, as well as your ability to write clean, organized code. Additionally, it would require you to think critically and to problem-solve, as you would need to design the program's logic and functionality.

Choose one of the following programs and build it using JavaScript only. Most of these projects don't involve traversing the DOM, so there is no UI, and they should get the user's input only with prompts and show alerts.

Some of the projects are bonus projects, more difficult ones, and they require using the fetch API and you can also implement a simple UI. You can learn about these topics for those projects if you choose to challenge yourself.

1. Create a program that simulates a simple to-do list application:
    - The program should have an array of to-do items
    - A prompt menu that allows the user to perform different actions (e.g. add a new item, mark an item as done, remove an item, display all items)
    - Use of if, else statements, switch cases to determine the user's action
    - Use of the map, foreach, filter methods to process and display the to-do items
    - Proper error handling for invalid inputs
    - Implement a function that allows the user to search within the to-do list
    - Bonus points for showing the to-do items on the screen and for allowing the user to sort the items by date, name or priority

2. Create a program that simulates a basic calculator. The program should have the following features:
    - A prompt menu that allows the user to perform different actions (e.g. add, subtract, multiply, divide). Show the results in an alert.
    - Use of if, else statements, switch cases to determine the user's action
    - Use of functions to perform calculations
    - Proper error handling for invalid inputs
    - Implement basic mathematical operations such as square root, power, and modulus
    - Implement a function that allows the user to undo the last operation
    - Bonus point for allowing the user to store and recall the calculations history.

3. Create a program that simulates a basic text analysis tool. The program should have the following features:
    - Use of JavaScript functions to analyze a given text, such as word count and most frequently used words.
    - Use of if, else statements, switch cases to determine the type of analysis.
    - Use of loops and string manipulation methods to perform the analysis.
    - Proper error handling for invalid inputs
    - Implement a feature that allows the user to analyze multiple texts
    - Bonus point for allowing the user to save and export the analysis results to a CSV file.

4. Create a program that simulates a basic random password generator. The program should have the following features:
    - Use of JavaScript functions to generate a random password based on user-specified criteria in the prompt, such as length and character types (uppercase letters, lowercase letters, numbers, special characters).
    - Use of if, else statements, switch cases to determine the criteria used.
    - Use of loops and random number generation to perform the password generation.
    - Proper error handling for invalid inputs
    - Implement a feature that allows the user to generate multiple passwords at once.
    - Bonus point for allowing the user to validate the password strength and give feedback to the user.

5. Create a program that simulates a basic budgeting application. The program should have the following features:
    - Use of JavaScript functions to allow the user to input and track their income and expenses. Try to challenge yourself and show these income and expenses on the screen.
    - Use of if, else statements, switch cases to determine the type of transaction (income or expense).
    - Use of loops and arrays to store and display the transactions.
    - Proper error handling for invalid inputs and negative values.
    - Implement a feature that allows the user to view the current balance and a breakdown of expenses by category.
    - Bonus point for allowing the user to set a budget and alert the user if they exceed it.

6. Create a program that simulates a basic e-commerce website (In this repository, in the js folder, you will find a file with an array of the products). The program should have the following features:
    - Use of JavaScript functions to allow the user to view a list of products, add items to a cart, and perform checkout. Implement this menu using the prompt.
    - Use of if, else statements, switch cases to determine the user's action.
    - Use of loops and arrays to store and display the products and cart items.
    - Proper error handling for invalid inputs and negative values.

- Implement a feature that allows the user to filter products by category, price, and rating
- Bonus points for showing the products and the cart on screen.

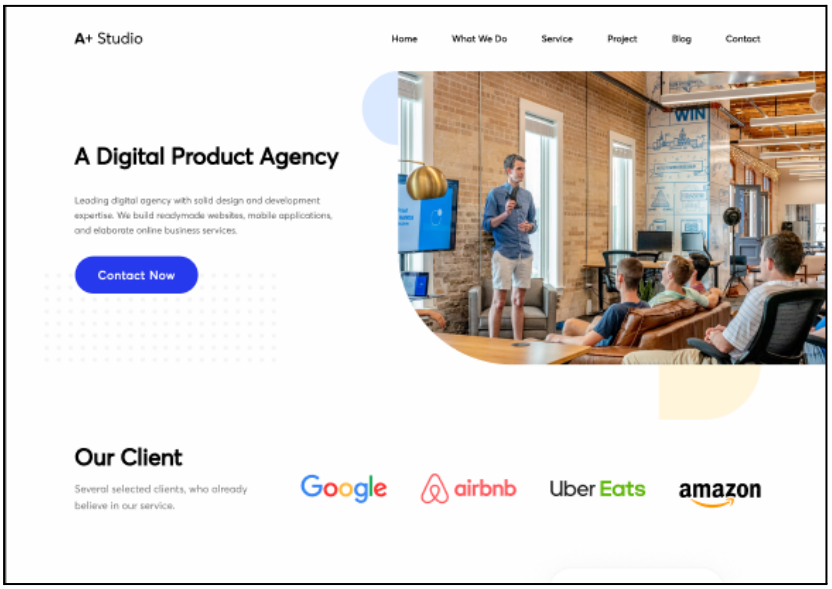
7. **Bonus:** Create a program that simulates a basic weather forecasting application. The program should have the following features:
    - Use of JavaScript **fetch** function to retrieve the current weather and the forecast for the next 5 days from an API such as OpenWeatherMap API (https://openweathermap.org/api).
    - Use of if, else statements, switch cases to determine the type of weather and display an appropriate icon.
    - Use of loops and JSON parsing to display the weather forecast.
    - Proper error handling for API errors and invalid inputs.
    - Implement a feature that allows the user to search for a specific city and retrieve its weather forecast.
    - Bonus point for allowing the user to save and display the forecast for multiple cities.

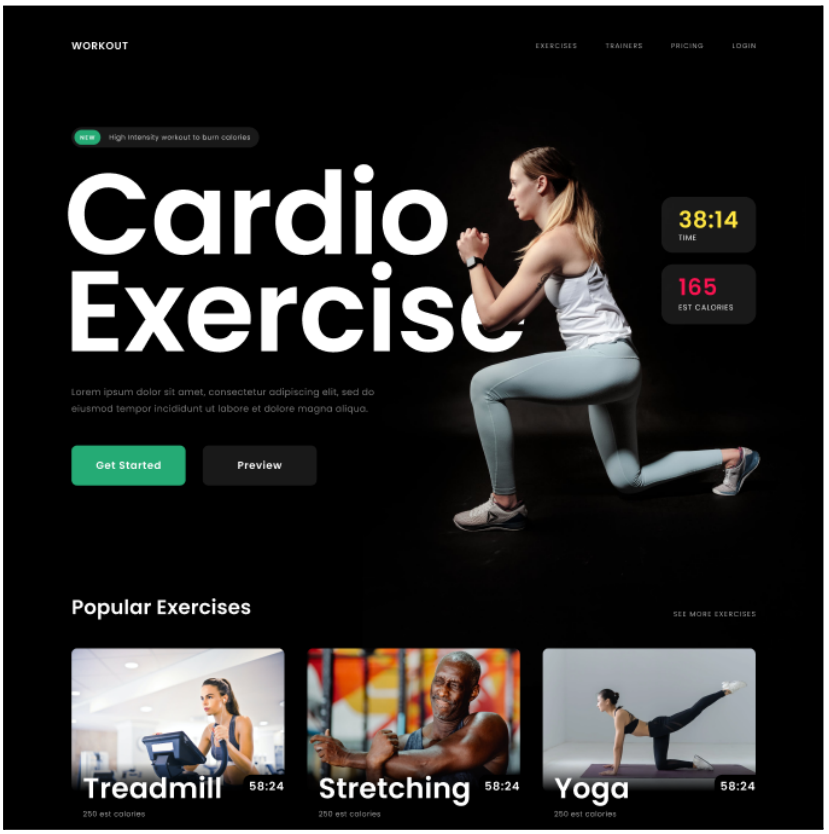
8. **Bonus:** Create a program that simulates a dynamic trivia game (see example here). The program should have the following features:
    - Use of JavaScript **fetch** function to retrieve questions from the Open Trivia Database API (https://opentdb.com/api_config.php) based on user-specified criteria such as category, difficulty, and number of questions.
    - Use of if, else statements, switch cases to determine the user's answer and check it against the correct one.
    - Use of loops and JSON parsing to load and display the questions.
    - Proper error handling for API errors and invalid inputs.
    - Implement a feature that allows the user to select a category, difficulty, and number of questions.
    - Implement a feature that keeps track of the user's score and displays it at the end of the quiz.
    - Bonus point for allowing the user to save and display a leaderboard of the highest scores.

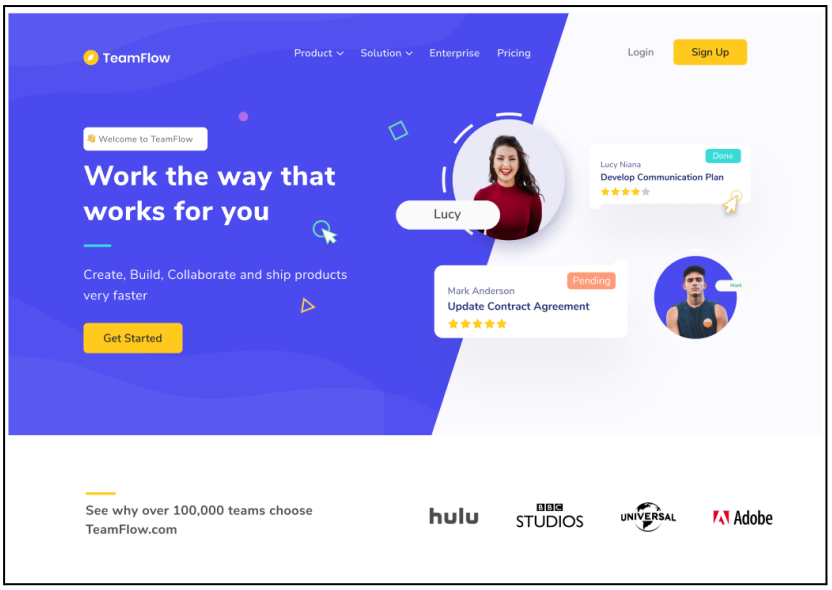
HTML CSS

For the next assignment, please register to Figma.

Choose a design from the following links and build a single page website with three sections from the design you chose. The sections you choose don't have to be the first three sections in the design.



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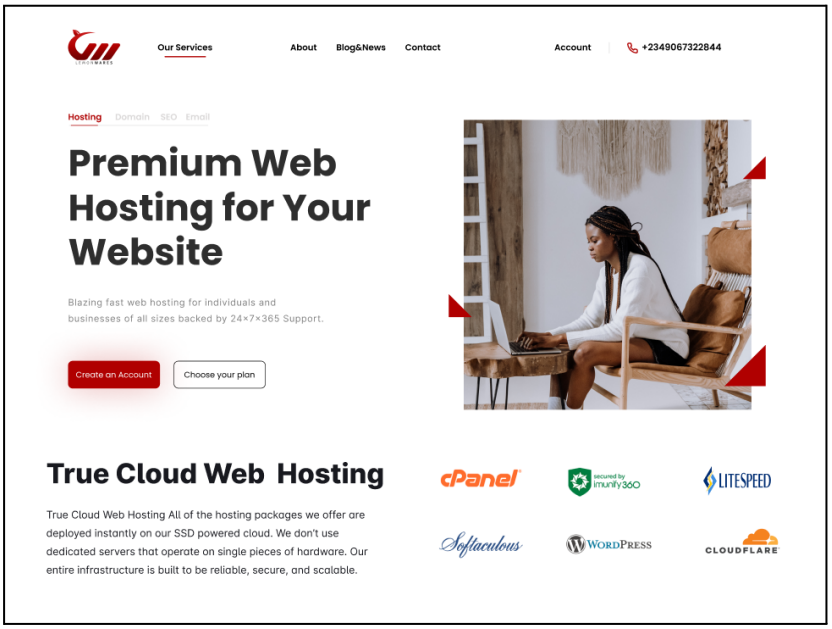
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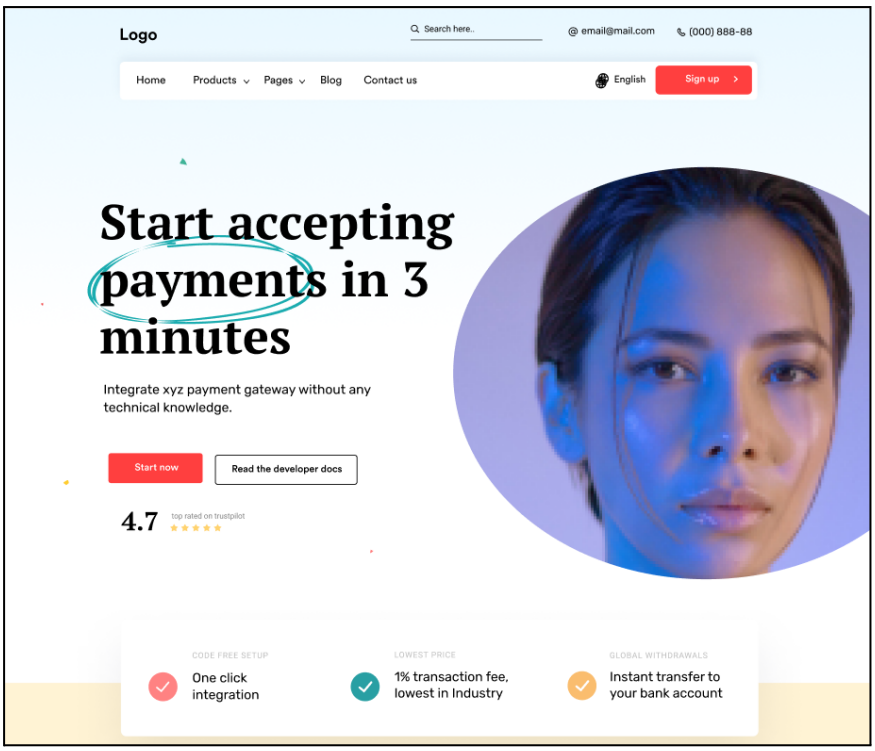
WordPress
CLOUDFLARE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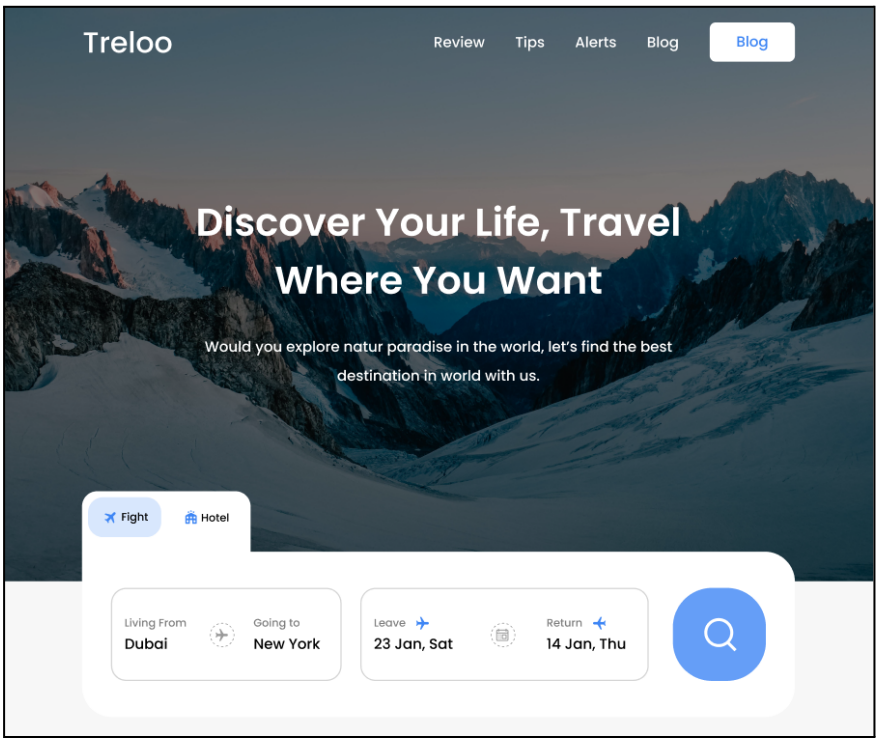
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14 Jan, Thu