Assignment: Asynchronous Programming Exercises

Objective:

Develop a series of JavaScript exercises focusing on different asynchronous programming techniques such as callbacks, promises, and async/await, while integrating API calls to display data.

Evaluation Criteria:

Part 1: Callbacks { 25 marks }

Task 1: Html and CSS (5 Marks)

- Create an HTML file named "callbacks.html" with the basic structure of an HTML document.
- Also focus on Styling and Design. And no need to focus on responsiveness.

Task 2: Callback Implementation (10 Marks)

- Include a button and a div element in the HTML file.
- Implement JavaScript functionality that utilizes a callback function to simulate a delay of 5 seconds when the button is clicked.
- Update the text in the div element to display “Callback executed after 5 seconds” after the delay.

Task 3: Fetch Data from API (10 Marks)

- Modify the callback implementation to fetch data from the JSONPlaceholder API (e.g., posts endpoint (https://dummyjson.com/posts)).
- Display the fetched data (e.g., post titles) in the div element after the callback is executed.

Part 2: Promises { 25 marks }

Task 1: HTML and CSS (5 Marks)

- Create an HTML file named "promises.html" with the basic structure of an HTML document.
- Also focus on Styling and Design. And no need to focus on responsiveness.

Task 2: Promise Implementation (15 Marks)

- Include a button and a div element in the HTML file.
- Implement JavaScript functionality that creates a Promise to fetch data from the JSONPlaceholder API (e.g., posts endpoint (https://dummyjson.com/posts)).
- Display "Loading..." in the div element while the Promise is pending and update the text to show the fetched data once the Promise is resolved.

Task 3: Error Handling (5 Marks)

- Also focus on error handling.
- If the Promise takes longer than 5 seconds to resolve, reject it with a message like "Operation timed out."
- Display the error message in the div if the Promise is rejected.

Part 3: Async/Await { 25 marks }

Task 1: HTML and CSS (5 Marks)

- Create an HTML file named "async-await.html" with the basic structure of an HTML document.
- Also focus on Styling and Design. And no need to focus on responsiveness.

Task 2: Async/Await Implementation (10 Marks)

- Include a button and a div element in the HTML file.
- Implement JavaScript functionality that uses async/await to fetch data from the JSONPlaceholder API (e.g., posts endpoint (https://dummyjson.com/posts)).
- Display "Loading..." in the div element while the data is being fetched and update the text to show the fetched data once it is received.

Task 3: Error Handling (10 Marks)

- Implement error handling in the async/await implementation.
- Handle errors such as network issues or timeouts gracefully and display error messages in the div element.

Assessment:

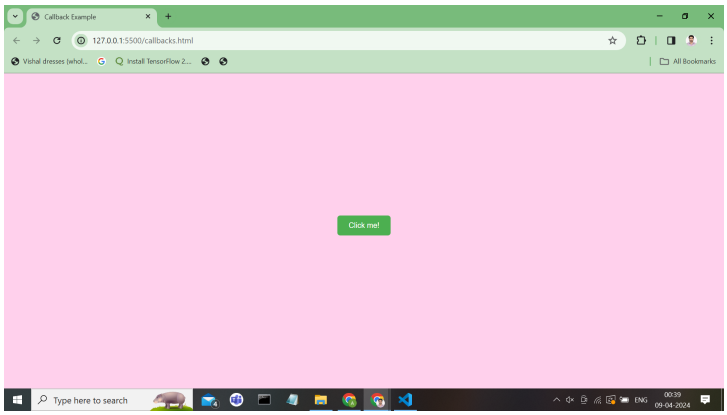
- Marks will be assigned for each task based on adherence to guidelines, implementation correctness, code quality, and overall understanding of asynchronous programming concepts.

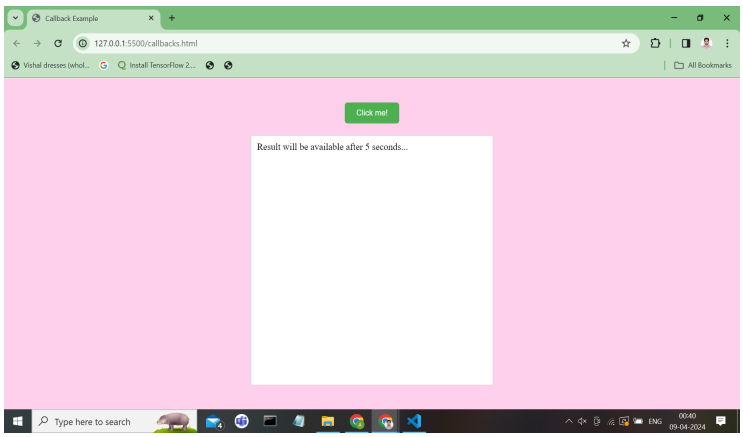
Submission Guidelines:

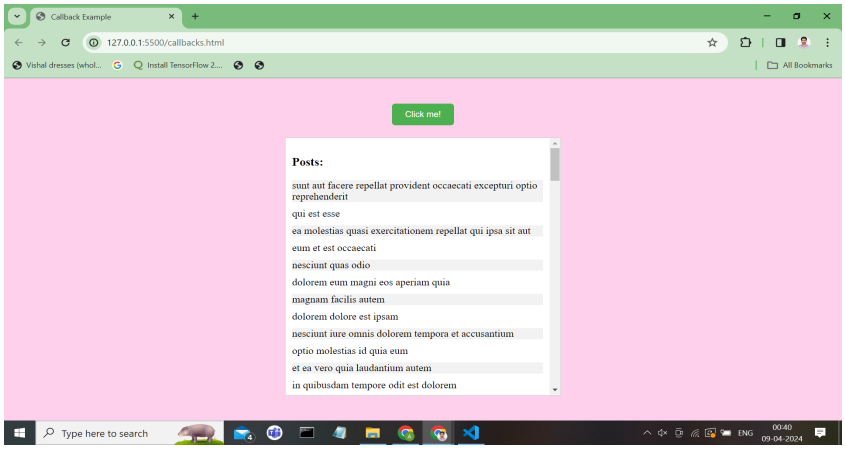
- Submit a zip file containing all HTML files, CSS file, and JavaScript file.
- Ensure code readability and organization, including appropriate comments for complex sections.

Sample Image:

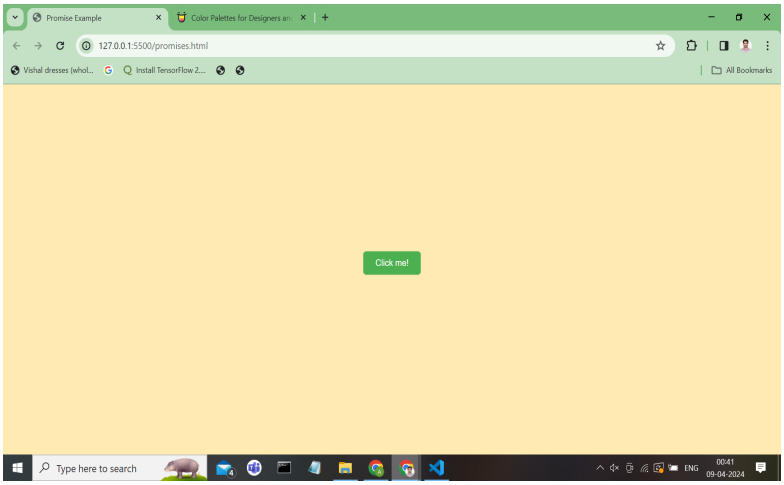
For Callbacks:

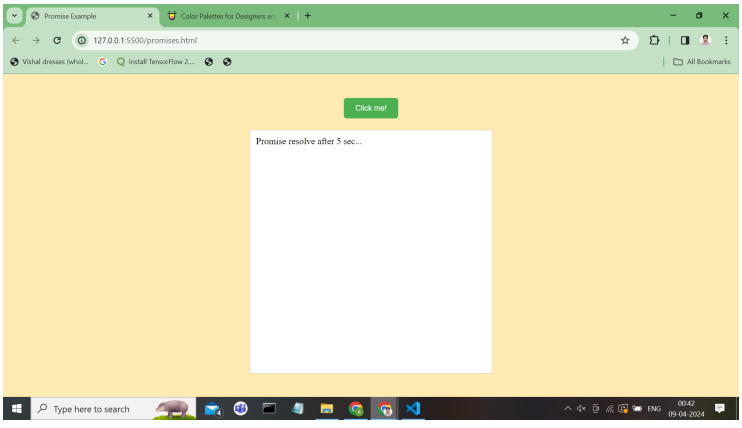




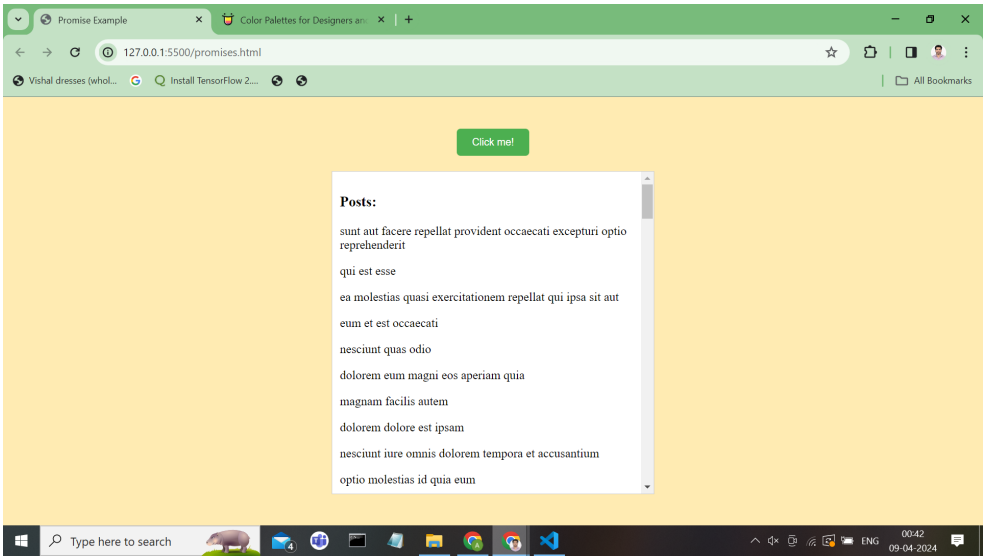


For Promise :

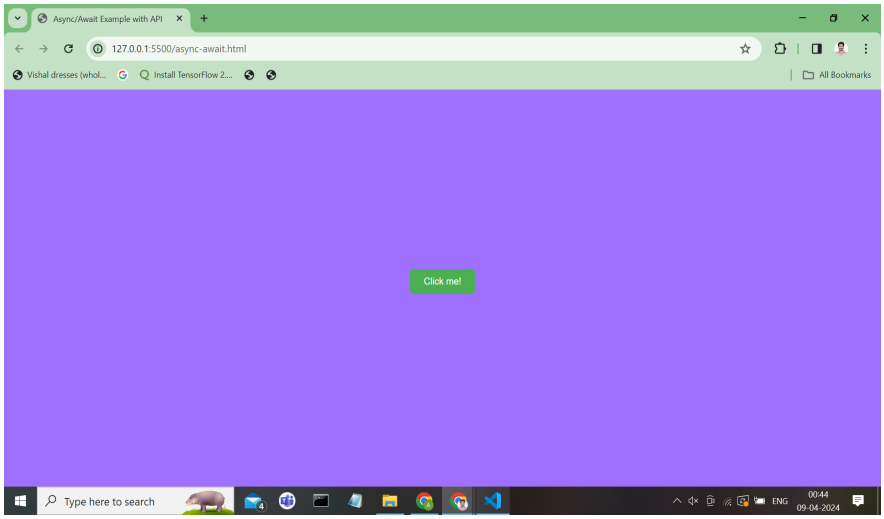


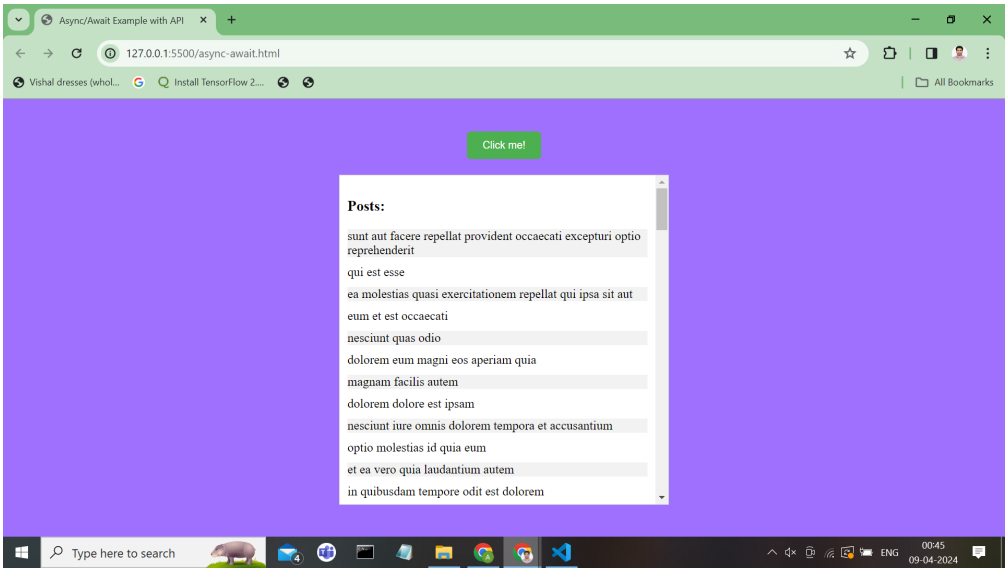


INTERNSHALA TRAININGS



For Async Await:





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