**Functional Documentation for react:**

In the below document, all necessary functional details will be provided for each component added to the previous lab:

**Forum Component:**

The Forum component is responsible for rendering and managing a forum where users can create new posts and view existing ones. The component includes the following:

A form for users to create new posts.

A list of posts fetched from the backend.

Pagination to navigate through the posts.

**Key functions include:**

**fetchPosts**(): Fetches the list of posts from the backend and sets the posts state.

**handlePageChange**(): Updates the page number and fetches the corresponding posts.

**UserTransactions Component**

This component allows users to perform exchange transactions by posting or accepting offers.

**Props**:

userToken: (string) User's authentication token.

**Functionalities**:

Fetch and display available offers from the server.

Post an offer with user-specified USD and LBP amounts.

Accept an offer from the list of available offers.

Display success or error messages in the form of alerts.

**ExchangeRateGraph Component:**

The ExchangeRateGraph component is responsible for rendering a line chart to display the historical exchange rate between two currencies. The component includes the following:

A chart to display the historical exchange rate data.

A form for users to select the currency pair and date range.

**Key functions include:**

**fetchExchangeRates**(): Fetches the historical exchange rate data from the backend and sets the data state.

**handleCurrencyChange**(): Updates the selected currency pair and fetches the corresponding exchange rate data.

**handleDateChange**(): Updates the selected date range and fetches the corresponding exchange rate data.

**MiniGame Component**

A React-based currency conversion mini-game that generates random currency conversion questions, prompting users to provide the correct conversion value based on a given exchange rate. The user's score increases with each correct answer.

**State Variables**

**gameStarted**: A boolean that indicates whether the game has started.

**gameEnded**: A boolean that indicates whether the game has ended.

amount: A number representing the currency amount to be converted in the question.

**exchangeRate**: A number representing the exchange rate for the currency conversion in the question.

**transactionType**: A string indicating the type of currency conversion ("USD to LBP" or "LBP to USD").

**userAnswer**: A string representing the user's inputted answer.

**score**: A number representing the user's current score.

**resultMessage**: A string representing the message displayed after the user submits their answer.

**Functions:**

**startGame**(): Initializes the game by setting gameStarted to true, gameEnded to false, resetting the score, and generating the first question.

**endGame**(): Ends the game by setting gameStarted to false and gameEnded to true.

**generateQuestion**(): Generates a new random question with a random amount, exchange rate, and transaction type.

**checkAnswer**(): Compares the user's answer to the correct answer and updates the score and result message accordingly.