Web Scraping Tool Explanation - Chrome Extension - Option B

The web scraping tool is designed to fetch historical market data for selected cryptocurrencies from the CoinMarketCap API. Users can choose specific cryptocurrencies and a date range to download market data in JSON format.

Recording:https://www.loom.com/share/1d9837e3693e4c0390e33f3300971204?sid=867254e9-6caa-418a-9241-390ae1ed08a5

2. **Frontend (React):** It includes a checkbox list to select cryptocurrencies, a date range picker using the react-date-range library, and a button to trigger data fetching.An information button provides guidance on how to use the tool.

3. **Backend (Express):** The backend is built using Express.js and serves as a proxy to the CoinMarketCap API.
   - It handles two main endpoints:
     - /cryptocurrency/listings/latest: Fetches the latest cryptocurrency listings from CoinMarketCap.
     - /performOperations: Fetches historical market data for selected cryptocurrencies and date range, then saves and sends the data as a downloadable JSON file.

4. **Data Fetching (Axios) & Data Processing:**Data fetching from the CoinMarketCap API is done using the Axios library.
   - The backend processes the fetched data, filtering it based on the selected cryptocurrencies and mapping it to a custom format.Market cap calculations are adjusted based on circulating and total supplies.The processed data is saved as a JSON file.

5. **File Handling:** The tool allows users to download the processed data as a JSON file.The file is named 'market_cap_summary.json'.

Technologies Used

1. **React.js:** Chosen for its declarative approach to building user interfaces and ease of component reusability.

2. **Express.js:** Selected as a lightweight and flexible backend framework to handle API requests and proxy CoinMarketCap API.

3. **Axios & Cors Middleware:** Used for making HTTP requests. Axios simplifies asynchronous requests and supports Promise-based responses.
   - Implemented to enable cross-origin resource sharing, allowing the frontend to communicate with the backend.

Reasoning
   - React's component-based structure facilitates modular development and makes the UI more manageable , Express is a minimal and flexible Node.js web application framework suitable for building APIs , Axios is a popular choice for making HTTP requests due to its simplicity and broad community support.