💰 Expense Splitter Dashboard

Problem Statement

Managing shared expenses in groups such as friends, roommates, or colleagues can be complicated. Often, people pay different amounts, and keeping track of who owes whom becomes a tedious task. The problem is to **calculate the fair share of each individual** and determine the exact amount each person needs to pay or receive so that the expenses are evenly split.

Challenges addressed:

- Calculating the average contribution.
- Identifying who overpaid and who underpaid.
- Determining the exact transactions to settle balances.
- Providing a user-friendly interface for easy input and output.

About This Project

The **Expense Splitter Dashboard** is a **web-based application** that automates expense settlement for any group. It uses **HTML, JavaScript, and inline CSS** to create a modern and interactive dashboard.

Key Features:

- Enter **total amount** and **number of people** involved.
- Input **names** and **amount paid** for each individual.
- Automatically calculates **who owes whom** using a logic inspired by a Java application.
- Shows a clear list of transactions so everyone knows their exact payments.
- User-friendly **dashboard interface** with modern styling.
- Works entirely on the client-side; no backend required.

How It Works (Logic):

1. Calculate the **average contribution** per person.
2. Divide people into two lists:
3. **LowAmount:** people who paid less than average.
4. **HighAmount:** people who paid more than average.
5. Iteratively match debtors to creditors to compute **minimum transactions** required to settle expenses.
6. Display results in the format:

```
PERSON_A needs to give X RUPEES TO PERSON_B
```

7. If everyone paid exactly the average, it shows:

```
✅ No one needs to pay anything!
```

Technologies Used:

- **HTML5** – Structure of the dashboard.
- **JavaScript** – Core expense calculation logic.
- **CSS (inline)** – Styling for modern dashboard appearance.

Potential Enhancements:

- Add **color-coded balances** for better visualization.
- Make the dashboard **responsive for mobile devices**.
- Enable **PDF export** of transaction summaries.
- Store past transactions in **local storage** for reference.

Usage Instructions:

1. Open `index.html` in a web browser.
2. Enter the **total amount** spent.
3. Enter the **number of people** and click **Set**.
4. Fill in each person's **name** and **amount paid**.
5. Click **Calculate** to view the settlement transactions.

✅ This project helps **simplify group expense management**, ensuring fairness and clarity.