PERSONAL FINANCE MANAGEMENT

SCENARIO:

The Personal Finance Management System is designed to help users manage their finances efficiently. It will handle tasks such as income tracking, expense management, budgeting, and financial goal setting. The system should provide users with insights into their financial health, allow them to set and track budgets, and provide tools to plan for future financial goals.

REQUIREMENTS:

1. User Registration and Authentication:

- **Registration Page:**
    - Form to enter personal details (name, email, contact number, etc.).
    - Form to create a password (with validation for security).
- **Login Page:**
    - Form for users to enter their email and password.
    - Implement session management to keep users logged in.
- **Password Security:**
    - Hash passwords using a secure algorithm (e.g., bcrypt).
    - Validate passwords during login to ensure they match the hashed version in the database.

2. Income and Expense Management:

- **Income Management:**
    - Interface for users to input various income sources (e.g., salary, freelancing, investments).
    - Track and categorize income by source and date.
- **Expense Management:**
    - Interface for users to input expenses (e.g., groceries, rent, entertainment).
    - Categorize expenses into predefined categories (e.g., food, housing, utilities).
- **Search and Filtering:**

    - Allow users to search and filter income and expenses by date, category, and amount.

3. Budgeting and Financial Planning:

- **Budget Creation Page:**
    - Form for users to create monthly or yearly budgets based on their income and expense categories.
- **Budget Tracking:**
    - Interface to track actual spending against the budgeted amounts.
    - Notifications or alerts if spending exceeds budget limits.
- **Goal Setting:**
    - Allow users to set financial goals (e.g., saving for a vacation, buying a car).
    - Track progress towards these goals.

4. Reporting and Analytics:

- **Financial Dashboard:**
    - Overview of financial health, showing income, expenses, savings, and budgets.
    - Visualizations like pie charts and bar graphs for income vs. expenses, category-wise spending, and savings over time.
- **Expense Reports:**
    - Generate detailed reports of expenses by category, date, and payment method.
- **Income Reports:**
    - Generate reports of income sources and amounts over a selected period.

5. Notifications and Alerts:

- **Payment Reminders:**
    - Alerts for upcoming bill payments, loan due dates, and other financial obligations.
- **Goal Progress Alerts:**
    - Notifications on the progress of financial goals (e.g., 50% of goal achieved).
- **Budget Alerts:**

    - Alerts when spending in a particular category approach or exceeds the budgeted amount.

Front End:

- **Technologies:** HTML/CSS, JavaScript, React.js or Angular (for dynamic and responsive UI).
- **UI Frameworks:** Bootstrap or Materialize (for UI components).

Back End:

- **Technologies:** Node.js with Express.
- **Database:** MongoDB (for storing income, expenses, and budget data).
- **ORM:** Mongoose (for interacting with MongoDB).
- **Authentication:** JWT (for authentication and authorization)