**EXPENSENTRY: - “The Personal Budget Manager”**

The Personal Budget Manager is a console-based application using C programming language designed to develop a simple yet effective tool for individuals to manage their monthly expenses and budgets efficiently. With increasing financial responsibilities, many people struggle to keep track of their spending and adhere to budgetary constraints. This project seeks to address this challenge by providing a user-friendly platform to monitor expenses, set budget goals, and display warnings when exceeds spending limits. This program utilizes structures, pointers, arrays, recursive functions, libraries, switch-cases and manifold functions to facilitate budget management.

**Features:**

* **User-Friendly Interface**: The program features a simple text-based interface with intuitive menu options for easy navigation and interaction.
* **Expense Tracking**: Users can add, edit, and delete expenses with ease. Each expense is associated with a category, amount, and *timestamp* for reference.
* **Budget Summary**: The program provides a comprehensive summary of the user's budget, including income, budget limit, remaining balance, and total expenses. It also alerts users if total expenses exceed the budget limit.
* **Timestamps**: Expenses are recorded with timestamps, providing users with insights into when each expense occurred. This feature enhances transparency and accountability in budget management.
* **Error Handling:** The program includes error handling mechanisms to detect and alert users about invalid inputs or actions, ensuring data integrity and user satisfaction.

**Methodology:**

* Input Income and Budget Limit: Upon launching the program, users are prompted to input their monthly income and budget limit.
* Expense Management: Users can choose from various options to manage expenses, including adding, editing, and deleting expenses.
* Budget Summary: Users can view a detailed summary of their budget, including income, budget limit, remaining balance, and total expenses.
* Exit: Users can exit the program at any time by selecting the appropriate option from the menu.

**Results:**

The program provides users with multiple categories to add and modify expenses, guaranteeing data redundancy, flexibility, and convenience. It also incorporates warnings to alert users in different scenarios. Through thorough testing, the project has been developed with consideration for all possible test cases, ensuring robust functionality. Users can view detailed expenditure reports, complete with timestamps. Additionally, emojis have been strategically incorporated to enhance presentation and engage users more effectively.

**Future scope-**

The project's future scope includes implementing user authentication for enhanced security and enabling multi-user functionality. Additionally, the integration of budget analysis tools, such as monthly analysis and visualizations, will offer users valuable insights into their spending patterns.