**Expense Tracker Project Documentation**

**Introduction**

The Expense Tracker is a Python-based GUI application that allows users to record and manage their expenses. It utilizes SQLite for data storage and Tkinter for the graphical user interface.

**Features**

- Add expenses with details like amount, category, description, and date.

- View recorded expenses in a tabular format.

- Delete selected expenses.

- View monthly spending summaries.

- Visualize expense insights using a pie chart.

**Technologies Used**

- Python (Programming Language)

- SQLite (Database Management)

- Tkinter (GUI Development)

- Matplotlib (Data Visualization)

**Code Overview**

1. Database Setup

- init\_db(): Creates an SQLite database with an expenses table.

- clear\_db(): Deletes all records from the database.

2. Expense Management

- add\_expense(amount, category, description, date): Adds a new expense to the database.

- delete\_expense(): Deletes a selected expense from the database.

- get\_expenses(): Retrieves all recorded expenses.

3. Data Analysis

- get\_monthly\_summary(): Fetches total expenses per category for the current month.

- show\_summary(): Displays the monthly summary in a message box.

- show\_insights(): Generates a pie chart showing category-wise expense distribution.

4. Graphical User Interface (GUI)

- Expense Input Section: Entry fields for amount, category (dropdown), description, and date.

- Action Buttons: Add Expense, Delete Expense, Show Monthly Summary, Show Insights.

- Expense Display Table: Shows recorded expenses in a Tkinter Treeview.

5. Application Lifecycle

- The application window is set to 700x550 pixels and is non-resizable.

- root.protocol("WM\_DELETE\_WINDOW", lambda: [clear\_db(), root.destroy()]) ensures that the database is cleared before exiting the application.

**Conclusion**

This Expense Tracker efficiently records and analyzes expenses, making it a useful personal finance management tool. It combines database handling, GUI interactions, and data visualization to provide a comprehensive expense tracking solution.