

Project Overview:

The Personal Finance Manager is a Python-based command-line application that helps users track, manage, and analyze their personal expenses. The application allows users to store expenses persistently, generate reports, and maintain backups of financial data.

Objectives:

- Record daily expenses with category, date, and description
- Store expense data using CSV files
- Provide analytical reports to understand spending habits
- Ensure data safety through backup and restore features
- Deliver a simple, user-friendly command-line interface

Installation Steps:

- Download or clone the project folder
- Open a terminal inside the project directory
- Run the application using:
`python main.py`

Main Menu Options:

- Add New Expense
- View All Expenses
- Edit Expense
- Delete Expense
- Search Expenses
- Generate Reports
- Export / Backup Data
- Restore Backup
- Export Data to JSON
- Exit Application

Example:

- Adding an Expense
- Enter amount
- Select category
- Enter date or use today's date
- Add optional description
- The expense is saved automatically.

Code Organization

Expense Class: Defines expense structure using `@dataclass`

File Operations: CSV read/write and JSON export

Validation Functions: Input validation for date and amount

Reporting Functions: Total, average, category-wise, monthly reports

Menu System: Handles user interaction and program flow

Troubleshooting Guide:

Program does not run-

Ensure Python is installed correctly

Run using `python main.py`

CSV file not found-

The program automatically creates it on first run

Invalid input errors-

Enter valid numeric values for amount

Use date format YYYY-MM-DD

Keyboard interrupt-

Press `Ctrl + C` safely exits the application