

Overview:

—>The Personal Expense Tracker is a Python console application that helps users manage their daily expenses. It allows you to record expenses, categorize them, view spending patterns, and generate detailed monthly reports. All data is stored in a CSV file for persistence between sessions.

Features

Add Expenses:

Record expenses with date, category, description, and amount

View Expenses:

Display all expenses in a tabular format

Filter Expenses:

Filter by category, date range, or specific ID

Edit Expenses:

Modify existing expense entries

Delete Expenses:

Remove unwanted expense records

Generate Reports:

Create monthly summaries with category breakdowns

Data Persistence:

All data is automatically saved to a CSV file

Installation

Ensure you have Python 3.6 or higher installed on your system

Download or copy the `expense_tracker.py` file to your desired location

No additional dependencies are required beyond Python's standard library

Usage

Running the Application

To start the application, run the following command in your terminal or command prompt:

bash :

```
python expense_tracker.py
```

Main Menu Options

Once the application is running, you'll see the following menu:

=== Personal Expense Tracker ===

1. Add Expense
2. View All Expenses
3. Filter Expenses
4. Delete Expense
5. Edit Expense
6. Generate Summary Report
7. Exit

—>Adding an Expense (Option 1)

Select option 1 from the main menu

Enter the date in YYYY-MM-DD format or press Enter for today's date

Select a category from the list by entering the corresponding number

Enter a description for the expense

Enter the amount (must be a positive number)

The expense will be saved with a unique ID

—>Viewing Expenses (Option 2)

Select option 2 from the main menu

All expenses will be displayed in a tabular format with columns for ID, Date, Category, Description, and Amount

—>Filtering Expenses (Option 3)

Select option 3 from the main menu

Choose how you want to filter expenses:

View all expenses

Filter by category

Filter by date range

Filter by specific ID

The filtered results will be displayed

—>Deleting an Expense (Option 4)

Select option 4 from the main menu

First filter the expenses to find the one you want to delete

Enter the ID of the expense you want to delete

Confirm the deletion when prompted

—>Editing an Expense (Option 5)

Select option 5 from the main menu

View all expenses to find the one you want to edit

Enter the ID of the expense you want to edit

Select which field you want to modify:

Date

Category

Description

Amount

Enter the new value for the selected field

The changes will be saved automatically

—>Generating a Summary Report (Option 6)

Select option 6 from the main menu

Enter the month and year in YYYY-MM format or press Enter for the current month

The application will generate a report showing:

Total expenses for the month

Category breakdown with percentages

Highest spending category

Lowest spending category

→Exiting the Application (Option 7)

Select option 7 from the main menu

The application will exit gracefully

Data Storage

All expense data is stored in a CSV file named expenses.csv in the same directory as the application. The file structure is as follows:

ID Date

Category

Description

Amount

1	2025-08-29	Food	Breakfast	\$250.00
2	2025-08-29	Travel	Bus charge	\$29.00

3
2025-08-29 Shopping
Cloths
\$2200.00
4
2025-08-29 Bills
Recharge
\$399.00
5
2025-08-29 Other
Rent
\$500.00

Categories

The application uses the following predefined categories:

Food

Travel

Shopping

Bills

Other

Error Handling

The application includes comprehensive error handling for:

Invalid date formats

Invalid numerical inputs

File I/O errors

Invalid menu selections

Future Enhancements

Potential improvements for future versions:

Custom category creation

Data export to other formats (JSON, Excel)

Graphical user interface (GUI)

Cloud synchronization

Budget setting and alerts

Receipt image attachment

Multi-currency support