

Lab Report: Expense Calculator in Python

1. Aim

To develop a simple Python program to track daily expenses, view total spending, categorize expenses, and delete entries. The program helps in managing personal finances effectively.

2. Software and Libraries Used

- **Python 3.x**
- **Libraries:**
 - os – for file handling and checking file existence
 - json – to store and retrieve expense data
 - datetime – to record the date of expenses

3. Problem Statement

Managing daily expenses manually can be time-consuming and error-prone. People often lose track of where their money goes.

This project provides a digital tool to:

- Record daily expenses
- View all expenses
- View total expenses
- View total by category
- Delete unwanted entries

4. Algorithm / Steps

1.

Start the program.

2.

Load existing expense data from a file if available.

3.

Display a menu with options:

•

Add Expense

•

View Expenses + Total

•

View Total by Category

•

Delete Expense

•

Exit

4.

Add Expense:

•

Input expense name, category, and amount

•

Record the current date

•

Save the expense to file

5.

View Expenses:

•

Display all expenses with serial number, category, amount, and date

•

Calculate and display the total expenses

6.

Total by Category:

•

Calculate total expenses for each category

•

Display grand total

7.

Delete Expense:

•

Display all expenses

•

Remove the selected expense

•

Update the file

8.

Repeat the menu until the user chooses to exit.

9.

End the program.

5. Features

•

Add Expense: Record new expenses with name, category, amount, and date.

•

View Expenses: Display all recorded expenses along with total expenditure.

•

Total by Category: Show total spent in each category and grand total.

•

Delete Expense: Remove unwanted or incorrect expense entries.

•

Data Persistence: Expenses are saved in a file, so they remain after the program is closed.

6. Sample Output (Description)

•

User adds an expense like “Coffee” under the category “Food” with amount ₦50.

•

Viewing expenses shows the list of all expenses along with the total amount spent.

•

Viewing total by category displays each category’s sum and the grand total.

•

Deleting an expense removes it from the list and updates the total.

7. Observations

- The program tracks daily expenses efficiently.
- Users can categorize expenses for better analysis.
- Deleting an expense is easy and updates the totals automatically.
- File-based storage ensures the data persists across multiple runs.

8. Conclusion

The Expense Calculator is a beginner-friendly Python project that demonstrates basic programming concepts, file handling, and data persistence. It allows users to systematically track their expenses and can be further enhanced with additional features like graphs or a GU