Lab Report: Personal Expense Tracker

1 Objective

To develop a Python-based application that allows users to track their daily expenses. The program should be able to accept user input (Date, Category, Amount, Description), save this data persistently to a text file, and retrieve it to display a history of expenses or calculate the total amount spent.

2 Proposed System

The system is built using Python and relies on standard file handling operations (File I/O) to store data.

- **Input:** The user provides transaction details via the console.
- **Storage:** Data is appended to a CSV-style text file named `expenses.txt`.
- **Processing:** The script parses the text file line-by-line to display formatted tables or calculate sums.
- **Error Handling:** Basic logic is implemented to handle file creation and data parsing.

3 Output Screens

1. Main Menu and Adding an Expense

```
==========================
 PERSONAL EXPENSE TRACKER
==========================
1. Add Expense
2. View Expenses
3. Calculate Total
4. Exit
Select an option (1-4): 1

--- ADD NEW EXPENSE ---
Enter Date (YYYY-MM-DD): 2023-10-25
Enter Category (Food, Travel, Bills, etc.): Food
Enter Amount: 12.50
Enter Short Description: Lunch at cafe
Success: Expense saved!
```

2. Viewing Expenses

```
Select an option (1-4): 2

--- YOUR EXPENSE HISTORY ---
```

```
Date       Category     Amount       Description
--------------------------------------------------
2023-10-25   Food         12.5         Lunch at cafe
```

3. Calculating Total

```
Select an option (1-4): 3

--- TOTAL SPENDING ---
Total amount spent so far: 12.5
```

4 Conclusion

In this experiment, I learned how to use Python's `open()` function to perform read and append operations on text files. This allows the program to persist data even after execution stops. I also practiced using functions to modularize the code and `while` loops to create an interactive menu.