



STUDENT MONEY MANAGER – PROJECT REPORT

1. Introduction

This project is a small Python program I made to help track my personal money. I often receive small amounts of pocket money, or spend on snacks or travel, and I usually forget to keep track of these small transactions. So I wanted to create something simple that could record income and expenses and let me check my balance anytime.

2. Problem Statement

Many students, including me, struggle to maintain a clear idea of how much money we actually have. Small expenses add up without us noticing, and we only realize it when the money is almost gone. I needed an easy way to quickly record what I earn and what I spend in a single place.

3. Objectives

The main goals of this project were:

- To build a simple money-tracking tool using Python.
- To store all data permanently in a JSON file.
- To allow basic actions like adding income, adding expenses, viewing balance, and checking transaction history.
- To keep the interface simple and text-based.

4. Top-Down Design

I divided the work into smaller functions instead of writing everything in one block. This made the program easier to understand and modify. The main components are:

- **load_data()** – Loads existing data or creates empty data.
- **save_data()** – Saves all updated data back into the JSON file.
- **add_income()** – Lets the user add income with a note.
- **add_expense()** – Records expenses after checking balance.
- **view_balance()** – Shows current balance.
- **view_history()** – Lists all past transactions.
- **main()** – The menu that controls everything.

This structure allowed me to focus on one problem at a time.

5. Algorithm (Step-by-Step)

1. Start the program.
2. Load money_data.json if it exists; otherwise start with default values.
3. Display the menu with options.
4. Ask the user to choose an action.
5. Perform the action:
 - Add income
 - Add expense
 - View balance
 - View transaction history
6. Whenever income or expense is added, update the JSON file.
7. Keep looping until the user chooses Exit.

6. Implementation Details

The entire program is written in Python using only built-in modules:

- **json** – To store and retrieve data.
- **os** – To check if the JSON file exists.
- **datetime** – To store the date and time of each transaction.

The data file (money_data.json) stores:

- Current balance
- A list of all transactions with notes and timestamps

The program runs in any terminal and doesn't require any installation besides Python.

7. Output Screenshots

(Here you will insert screenshots of the program running, such as adding income, adding expenses, viewing history, and your project folder.)

8. Conclusion

This project helped me understand file handling in Python, using functions properly, and keeping programs modular. Even though it is simple, it is useful for everyday tracking of money. It also taught me how to use JSON for persistent storage and how to design a menu-based program.