

# DOCUMENTATION

Personal Finance Tracker | 4COSC006C[PRO] | Coursework 01

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## CONTENT

Introduction.....	2
Features.....	2
Add Transaction:.....	2
View Transaction:.....	2
Update Transaction:.....	2
Delete Transaction:.....	2
Display Summary:.....	2
How to set up and use the program.....	2
File handling.....	3
Data Structure of JSON file.....	3
Description:.....	3
Example:.....	3
Interpretation of the example:.....	3

## Introduction

- The personal finance tracker is a python program designed to help users manage their financial transactions. It allows users to add, view, update, delete transactions and also provides a summary of the financial activities.

## Features

1. Add Transaction:  
Users can add a new transaction by entering details such as amount, category, transaction type (income or expense) and date.
2. View Transaction:  
User can view all existing transactions along with their details such as amount, category, transaction type and date.
3. Update Transaction:  
User can update an existing transaction by selecting it from the list of transactions and providing new details.
4. Delete Transaction:  
User can delete an existing transaction by selecting it from the list of transactions.
5. Display Summary:  
Provides a summary of the total income, total expense and overall financial balance.

## How to set up and use the program

1. Python should be installed on your system.
2. Run “personal\_finance\_tracker.py” using python.
3. The main menu will be shown to you.
4. You can select an item from the main menu by typing the corresponding number.
5. Follow the prompts to complete the operations such as adding a transaction, viewing a transaction, updating a transaction, deleting a transaction and showing the summary.
6. After completing each operation, the program will return to the main menu and you can choose to either proceed with another operation or exit the program.

## File handling

- This program uses JSON file handling to store and retrieve transaction data.
- Transactions are stored in a file named “finance.json”.
- “finance.json” should be in the same directory as the program.
- If “finance.json” does not exist a new file is created.

## Data Structure of JSON file

Description:

- The JSON file consists of transactions in list form within another list creating a nested list.
- Each list signifies one transaction consisting of four elements.
  1. Amount: (float) The value of the transaction.
  2. Category: (string) The category or description of the transaction.
  3. Type: (string) The type of transaction, such as Income or Expense.
  4. Date: (string) The date of the transaction in the format “YYYY-MM-DD”.

Example:

```
[[500000.0, "salary", "Income", "2024-03-19"], [1000.0, "Bills", "Expense", "2024-03-16"]]
```

Interpretation of the example:

- ❖ The 1<sup>st</sup> transaction represents an **income** (Element 4 – “Income”) of **500,000.0** /= ([Currency unspecified], [Element 1 – Amount]) received on **March 19<sup>th</sup> 2024** (Element 4 – date), categorized as “**salary**” (Element 2 – category).
- ❖ The 2<sup>nd</sup> transaction represents an **expense** (Element 4 – “Income”) of **1000.0** /= ([Currency unspecified], [Element 1 – Amount]) paid on **March 16<sup>th</sup> 2024** (Element 4 – date), categorized as “**Bills**” (Element 2 – category).