UNIVERSITY OF WESTMINSTER

IIT

DOCUMENTATION

Personal Finance Tracker v2.0 | 4COSC006C[PRO] | Coursework Part B

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Introduction

- The personal finance tracker is a python program designed to help users manage their financial transactions. It allows users to add, add in bulk, 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.

6. Read Bulk Transactions:

   User can add a batch of new transactions at once without entering one by one using add transactions.

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/bulk 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

Finance.json

- 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.

Finance.txt

- This program also uses text file handling to get user transactions in bulk and save them to the JSON file.
- Transactions are inputted by the user to the file named “finance.txt” and saved and the program is executed.
- “finance.txt” should be in the same directory as the program.
- If “finance.txt” does not exist a new file is created.

Data Structure of JSON file

Description:

- The JSON file consists of transactions in Dictionary form within list which is a value of the key-value pair where the key is the Category of the transaction.
- Each Category may have multiple transactions within the value list.
- Each dictionary signifies one transaction consisting of two elements.
    1. Amount: (float) The value of the transaction.(‘+’ if income and ‘-‘ if expense)
    2. Date: (string) The date of the transaction in the format “YYYY-MM-DD”.

Example:

```
{
    "Salary": [
        {
            "amount": 500000.0,
            "date": "2024-04-11"
        }
    ],
    "Bills": [
        {
            "amount": -5000.0,
            "date": "2024-04-11"
        }
    ]
}
```

Interpretation of the example:

- The 1st transaction represents an income ('+' amount) of 500,000.0 /= ([Currency unspecified], [Key: "amount"]) received on April 11th 2024 (Key: date), categorized as "Salary" (Key: "Salary" in main dictionary).

- The 2nd transaction represents an expense ('-' amount)of 5000.0 /= ([Currency unspecified], [Key: "amount"]) paid on March 16th 2024 (Key: date), categorized as "Bills" (Key: "Bills" in main dictionary).