

**University of Westminster**  
**Software Development I 4COSC006C**  
**Documentation**

Name	Nirukshika Sewwandi Wijesiri
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UOW ID:	w2082004
IIT ID:	20232818

# Personal Finance Tracker

This Python program allows users to track their personal finances by recording transactions, viewing transactions, updating transactions, deleting transactions, and displaying a summary of transactions. Users can also read bulk transactions from a file and save transactions to a file for future reference.

## Global Variables

- **transactions:** A dictionary to store transaction data. Keys represent transaction categories, and values are lists of dictionaries containing transaction details like amount and date.

## File Handling Functions

- **load\_transactions():** Loads transactions from a JSON file named 'transactions.json' into the `transactions` dictionary.
- **save\_transactions():** Saves transactions from the `transactions` dictionary into a JSON file named 'transactions.json'.
- **read\_bulk\_transactions\_from\_file(filename):** Reads transactions from a specified JSON file and updates the `transactions` dictionary.

## Feature Implementations

- **add\_transaction():** Allows users to add a new transaction by providing category, amount, and date.
- **view\_transactions():** Displays all transactions stored in the `transactions` dictionary.
- **update\_transaction():** Enables users to update an existing transaction by selecting a category and transaction number.
- **delete\_transaction():** Allows users to delete an existing transaction by selecting a category and transaction number.

- **display\_summary():** Shows a summary of transactions, including total amount and count for each category.
- **main\_menu():** Displays the main menu for interacting with the Personal Finance Tracker. Users can choose options to perform various operations on transactions. The menu continuously loops until the user chooses to exit.

## Usage

1. Run the script to start the Personal Finance Tracker.
2. Choose options from the main menu to add, view, update, delete transactions, display summary, read bulk transactions from a file, save transactions to a file, or exit the program.

## Example Usage

```
1. Add Transaction
2. View Transactions
3. Update Transaction
4. Delete Transaction
5. Display Summary
6. Read Bulk Transactions from File
7. Save Transactions to File
8. Exit
Enter your choice: 1
Enter category: salary
Enter amount: 12000
Enter date (YYYY-MM-DD): 2024-04-12
```

## Note

- Ensure the JSON file 'transactions.json' exists in the same directory as the script to use file handling functions properly.
- Date format for transactions should be in 'YYYY-MM-DD'.
- Numeric choices are expected for menu selections.