

Semester Project: Money Management System

Iteration 4 – Data Operations Implementation

Warning:

Do not change anything in `main.py`, `app.py`, or the `Front_End` directory.

Don't touch my front end 😞

System Description

This iteration expands the *Money Management System* by adding full backend functionality for **data operations**.

Where Iteration 3 focused on creating the classes and enabling basic “add” features, this phase implements the logic needed to **update**, **delete**, and **summarize** information already stored in the system.

You will now write the backend code that supports every major action in the interface — **Add**, **Edit**, and **Delete** — for transactions, debts, categories, and sinking funds.

These additions allow the program to actively manage its data, completing the transition from a simple data holder to a functional personal-finance tool.

All changes should be made in the backend Python files.

The Flask front end has already been configured to call these new backend methods automatically once implemented.

Deliverables

You are responsible for completing the **TODOs** provided in the project files.

Each TODO marks a required step to make data operations work for the corresponding feature.

File	Number of TODOs
<code>budget.py</code>	8
<code>debt.py</code>	2
<code>category.py</code>	1
<code>sinking_fund.py</code>	3
Total	14

Use PyCharm’s **TODO tool window** to keep track of your progress.

As you finish each one, replace **TODO** with **DONE** to confirm completion and avoid missing any steps.

Running the Application

To run the program:

1. Open the project in **PyCharm**.
2. Run the main Flask file.
3. In the terminal, you should see output similar to the following:

```
/usr/bin/python3 /Users/castewart/WorkStufffff/MoneyManagerFiles/MyMoneyManager/main.py
* Serving Flask app 'Front_End.app'
* Debug mode: on
WARNING: This is a development server. Do not use it in a production deployment. Use a production WSGI server instead.
* Running on http://127.0.0.1:5000
Press CTRL+C to quit
* Restarting with stat
* Debugger is active!
* Debugger PIN: 761-579-275
```

4. In your terminal, click the <http://127.0.0.1:5000> link to open the app in your browser.

Verifying Your Work

Once the application is running, test all front-end buttons and pages:

- **Transactions** – Add, Edit, and Delete transactions.
- **Categories** – Add categories and view their spending summaries.
- **Debts** – Add debts, make payments, and verify updated balances.
- **Sinking Funds** – Add contributions, view progress, and delete funds.

If every button (Add, Edit, Delete) functions correctly and the displayed information updates immediately without errors, your backend implementation for Iteration 4 is complete.

Submitting Your Work

To push your work to your GitHub repository, open the terminal in the project directory and run:

```
git add .
git commit -m "Solution for Iteration 4"
git push
```