

# Semester Project: Money Management System

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## 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 😡

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### 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.

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### 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
<b>Total</b>	<b>14</b>

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.

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### 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/WorkStuffff/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.
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## 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.

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## 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
```