

PYTHON

Assignment

Finance Tracker Project

Objective:

You are tasked with building a **Finance Tracker** application that allows users to manage their **income, expenses, and savings**. The application will allow users to **add, update, delete, and view** their financial data. You will implement this in Python using modular design principles, and the program will take input from users through the console.

Task Requirements:

1. **Modular Design:**
 - Divide the program into separate modules:
 - `income_management.py` for managing income.
 - `expenses_management.py` for managing expenses.
 - `savings_management.py` for managing savings.
2. **Main Features:**
 - Add, update, delete, and view **income sources, expenses, and savings goals**.
 - Calculate **total monthly income, total monthly expenses, and total savings balance**.
3. **User Interaction:**
 - Build a menu-driven interface in the `main.py` file that allows users to:
 1. Manage Income
 2. Manage Expenses
 3. Manage Savings
 4. Exit the program
4. **Operations to Implement:**
 - **Income:**
 - Add a new income source with its amount and category.
 - Update an existing income source's amount or category.
 - Delete an income source.
 - Display all income sources and the total monthly income.
 - **Expenses:**
 - Add a new expense with its amount and category.
 - Update an existing expense's amount or category.
 - Delete an expense.
 - Display all expenses and the total monthly expenses.
 - **Savings:**
 - Add a new savings goal with its target amount.
 - Add money to an existing savings goal.
 - Update the target amount of a savings goal.

- Delete a savings goal.
- Display all savings goals and the total savings balance.

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Model Output for Assignment
markdown
Copy code
Welcome to the Finance Tracker!

Choose an option:
1. Manage Income
2. Manage Expenses
3. Manage Savings
4. Exit
Enter your choice (1/2/3/4): 1

--- Income Management ---
1. Add Income
2. Update Income
3. Delete Income
4. View Income
5. Back to Main Menu
Enter your choice (1/2/3/4/5): 1
Enter income source name: Job
Enter amount for Job: 3500
Enter category for Job: Salary
Income source 'Job' added successfully.

--- Income Management ---
1. Add Income
2. Update Income
3. Delete Income
4. View Income
5. Back to Main Menu
Enter your choice (1/2/3/4/5): 1
Enter income source name: Freelance
Enter amount for Freelance: 1500
Enter category for Freelance: Side Job
Income source 'Freelance' added successfully.

--- Income Management ---
1. Add Income
2. Update Income
3. Delete Income
4. View Income
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5. Back to Main Menu
Enter your choice (1/2/3/4/5): 4
Income Sources: {'Job': {'amount': 3500, 'category': 'Salary'}, 'Freelance':
{'amount': 1500, 'category': 'Side Job'}}
Monthly Income: $5000

--- Income Management ---
1. Add Income
2. Update Income
3. Delete Income
4. View Income
5. Back to Main Menu
Enter your choice (1/2/3/4/5): 2
Enter income source name to update: Freelance
Enter new amount (or leave blank to skip): 2000
Enter new category (or leave blank to skip): Freelance Work
Income source 'Freelance' updated successfully.

--- Income Management ---
1. Add Income
2. Update Income
3. Delete Income
4. View Income
5. Back to Main Menu
Enter your choice (1/2/3/4/5): 4
Income Sources: {'Job': {'amount': 3500, 'category': 'Salary'}, 'Freelance':
{'amount': 2000, 'category': 'Freelance Work'}}
Monthly Income: $5500

--- Income Management ---
1. Add Income
2. Update Income
3. Delete Income
4. View Income
5. Back to Main Menu
Enter your choice (1/2/3/4/5): 3
Enter income source name to delete: Job
Income source 'Job' deleted successfully.

--- Income Management ---
1. Add Income
2. Update Income
3. Delete Income
4. View Income
5. Back to Main Menu
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Enter your choice (1/2/3/4/5): 4
Income Sources: {'Freelance': {'amount': 2000, 'category': 'Freelance Work'}}
Monthly Income: $2000

Choose an option:
1. Manage Income
2. Manage Expenses
3. Manage Savings
4. Exit
Enter your choice (1/2/3/4): 2

--- Expense Management ---
1. Add Expense
2. Update Expense
3. Delete Expense
4. View Expenses
5. Back to Main Menu
Enter your choice (1/2/3/4/5): 1
Enter expense item name: Rent
Enter amount for Rent: 1200
Enter category for Rent: Housing
Expense 'Rent' added successfully.

--- Expense Management ---
1. Add Expense
2. Update Expense
3. Delete Expense
4. View Expenses
5. Back to Main Menu
Enter your choice (1/2/3/4/5): 1
Enter expense item name: Groceries
Enter amount for Groceries: 300
Enter category for Groceries: Food
Expense 'Groceries' added successfully.

--- Expense Management ---
1. Add Expense
2. Update Expense
3. Delete Expense
4. View Expenses
5. Back to Main Menu
Enter your choice (1/2/3/4/5): 4
Expenses: {'Rent': {'amount': 1200, 'category': 'Housing'}, 'Groceries':
{'amount': 300, 'category': 'Food'}}
Monthly Expenses: $1500
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--- Expense Management ---
1. Add Expense
2. Update Expense
3. Delete Expense
4. View Expenses
5. Back to Main Menu
Enter your choice (1/2/3/4/5): 2
Enter expense item name to update: Groceries
Enter new amount (or leave blank to skip): 400
Enter new category (or leave blank to skip): Food Essentials
Expense 'Groceries' updated successfully.

--- Expense Management ---
1. Add Expense
2. Update Expense
3. Delete Expense
4. View Expenses
5. Back to Main Menu
Enter your choice (1/2/3/4/5): 3
Enter expense item name to delete: Rent
Expense 'Rent' deleted successfully.

--- Expense Management ---
1. Add Expense
2. Update Expense
3. Delete Expense
4. View Expenses
5. Back to Main Menu
Enter your choice (1/2/3/4/5): 4
Expenses: {'Groceries': {'amount': 400, 'category': 'Food Essentials'}}
Monthly Expenses: $400

Choose an option:
1. Manage Income
2. Manage Expenses
3. Manage Savings
4. Exit
Enter your choice (1/2/3/4): 3

--- Savings Management ---
1. Add Savings Goal
2. Update Savings Goal
3. Add to Savings
4. Delete Savings Goal
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5. View Savings
6. Back to Main Menu
Enter your choice (1/2/3/4/5/6): 1
Enter savings goal name: Emergency Fund
Enter target amount for 'Emergency Fund': 5000
Savings goal 'Emergency Fund' added successfully.

--- Savings Management ---
1. Add Savings Goal
2. Update Savings Goal
3. Add to Savings
4. Delete Savings Goal
5. View Savings
6. Back to Main Menu
Enter your choice (1/2/3/4/5/6): 1
Enter savings goal name: Vacation
Enter target amount for 'Vacation': 2000
Savings goal 'Vacation' added successfully.

--- Savings Management ---
1. Add Savings Goal
2. Update Savings Goal
3. Add to Savings
4. Delete Savings Goal
5. View Savings
6. Back to Main Menu
Enter your choice (1/2/3/4/5/6): 5
Savings Goals: {'Emergency Fund': {'target_amount': 5000, 'current_balance': 0},
'Vacation': {'target_amount': 2000, 'current_balance': 0}}
Total Savings: $0

--- Savings Management ---
1. Add Savings Goal
2. Update Savings Goal
3. Add to Savings
4. Delete Savings Goal
5. View Savings
6. Back to Main Menu
Enter your choice (1/2/3/4/5/6): 3
Enter savings goal name to add to: Vacation
Enter amount to add to 'Vacation': 500
$500 added to savings goal 'Vacation'.

--- Savings Management ---
1. Add Savings Goal
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2. Update Savings Goal
3. Add to Savings
4. Delete Savings Goal
5. View Savings
6. Back to Main Menu
Enter your choice (1/2/3/4/5/6): 5
Savings Goals: {'Emergency Fund': {'target_amount': 5000, 'current_balance': 0},
'Vacation': {'target_amount': 2000, 'current_balance': 500}}
Total Savings: $500

--- Savings Management ---
1. Add Savings Goal
2. Update Savings Goal
3. Add to Savings
4. Delete Savings Goal
5. View Savings
6. Back to Main Menu
Enter your choice (1/2/3/4/5/6): 4
Enter savings goal name to delete: Emergency Fund
Savings goal 'Emergency Fund' deleted successfully.

Choose an option:
1. Manage Income
2. Manage Expenses
3. Manage Savings
4. Exit
Enter your choice (1/2/3/4): 4
Exiting the Finance Tracker. Goodbye!
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