

Wallet Management Documentation

The Wallet Management is a program designed to manage income and expense data. It allows users to add income/expenses, categorize them, and generate summaries of the financial data.

Some of the functions:

The Wallet Management provides the following functions:

`initial_wallet(wallet *Wallet)`: Initializes the Wallet database by setting the head and tail pointers to NULL.

`add_data(wallet* Wallet, Data new_data)`: Adds a new income/expense entry to the Wallet database. It creates a new node, assigns the given data to it, and appends it to the end of the database.

`add_data_cat(categories *all_cat, char* cat)`: Adds a new category to the categories list. It creates a new node, copies the category name to the node, and appends it to the end of the list.

`display_summary(wallet Wallet)`: Displays a summary of expenses and incomes. It calculates the total income, total expense, the most expensive category, the money spent on that category, and the overall balance. The summary is printed on the console.

`save_database(wallet Wallet)`: Saves the Wallet database to a file named "database_wallet.txt". It overwrites the existing file with the updated database.

`check_cat_incat(categories cat, char* t)`: Checks if a given category already exists in the categories list. Returns 1 if the category is found, 0 otherwise.

`delete_wallet(wallet* Wallet)`: Deletes all nodes in the Wallet database and frees the allocated memory. It updates the head and tail pointers to NULL.

`delete_categories(categories* cat)`: Deletes all nodes in the categories list and frees the allocated memory. It updates the categories pointer to NULL.

`load_database(wallet* Wallet, categories* cat)`: Loads the Wallet database from the file "database_wallet.txt". It deletes the existing Wallet and category lists before populating them with the data from the file.

`check_date(Date date1, Date date2)`:

0: If the first date is earlier or equal to the second date.

1: If the first date is later than the second date.

Main Features:

Load Database: Users can load an existing database into the application, which contains previously added income and expense entries.

Add New Income/Expense: Users can add new income or expense entries to the database. They need to provide the date, type (income or expense), category, and amount for each entry.

Save Database: Users can save the current state of the database to a file for future use.

Create New Category: Users can create new categories to classify their income or expenses. They can enter the name of the category, and it will be added to the category list.

Display Summary: Users can view a summary of all the income and expense entries in the database, including total amounts and largest expenses.

Display Category Statistics within a Period of Time: Users can specify a start and end date and view category-wise statistics within that time range. It displays the total amount and largest expense for each category during that period.

Display Category Statistics: Users can view category-wise statistics for all the income and expense entries in the database. It displays the total amount and largest expense for each category.

User Guide:

Loading a Database: Choose option 0 from the menu to load an existing database. This will populate the application with previously added entries.

Adding New Income/Expense: Select option 1 from the menu. Enter the date, type (0 for income, 1 for expense), category, and amount for the new entry. The entry will be added to the database.

Saving the Database: Use option 2 to save the current state of the database. This will store the entries for future use.

Creating New Category: Choose option 3 to create a new category. Enter the name of the category, and it will be added to the category list.

Displaying Summary: Select option 4 to view a summary of all the income and expense entries. This will display the total amount and largest expense.

Displaying Category Statistics within a Period of Time: Choose option 5 and enter the start and end dates to view category-wise statistics within that time range. It will show the total amount and largest expense for each category during that period.

Displaying Category Statistics: Use option 6 to view category-wise statistics for all the entries. This will display the total amount and largest expense for each category.

Exiting the Application: Select option 7 to exit the program.

Please note that the application expects valid input for dates, types, amounts, and choices. Invalid inputs will prompt you to re-enter the correct values.