

Intro

The *Simple Finance Manager*, as the title already tells, is a simple Console Application for managing your every day budget. It supports a couple of pre-defined categories, such as *Groceries*, *Apartment Rental* and so on. Each category has its own initial *Limit* which can be changed from the user and also a list of *Items* which represent the products one buys from a certain category. The program supports two different types of output - one is shown on the console and the other is written to a text file. Input is always read from the console.

Commands supported and their input parameters

AddCategory {categoryName}

AddLimit {limit} {categoryName}

AddItemToCategory {categoryName} {itemName}

ShowCurrentBalance {categoryName}

ShowTotalItemsSum {categoryName}

RemoveCategory {categoryName}

RemoveItem {itemName} {categoryName}

After initialising a category the user can start adding items to it, changing the limit, removing items or removing the category itself. When removing an item from a category, the limit stays unchanged - just like in a real world example - you can visually delete the product from your account, but you've spent the money and your balance remains less, than it was at the beginning. There is still no support for a total limit - you can only define separate limits for separate categories.

Class Hierarchy

Models:

Commands

abstract Command : ICommand

abstract AddCommand : Command

class AddLimitCommand : AddCommand

class AddCategoryCommand : AddCommand

class AddItemToCategoryCommand : AddCommand

abstract ShowCommand : Command

class ShowCurrentBalanceCommand : ShowCommand

class ShowTotalItemsSum : ShowCommand

abstract RemoveCommand : Command

class RemoveCategoryCommand : RemoveCommand

class RemoveItemCommand : RemoveCommand

Categories

abstract Category : ICategory

class GroceriesCategory : Category

class ApartmentRentalCategory : Category

class LeasingCategory : Category

class EntertainmentCategory : Category

class BillsCategory : Category

Items

Item : IItem

IO

ConsoleReader : IReader

ConsoleWriter : IWriter

File Writer

FileWriter : IWriter

Category Repository

CategoryRepo : ICategoryRepo

Messages

Messages

ErrorMessages

Core

CommandManager

Engine

Example input and expected output

AddCategory Groceries
AddLimit 300 Groceries
AddItemToCategory Groceries Meat 50
AddItemToCategory Groceries Potatoes 30
ShowCurrentBalance Groceries
ShowCurrentBalance Entertainment
ShowTotalItemsSum Groceries
RemoveCategory Entertainment
RemoveItem Meat Groceries
AddCategory Entertainment
AddLimit 30 Entertainment
AddItemToCategory Entertainment MovieTickets 28
AddItemToCategory Entertainment TheaterTickets 30
AddLimit -20 Groceries
AddItemToCategory Bills Internet
RemoveCategory Leasing
ShowTotalItemsSum Bills
End

Category GroceriesCategory with the name Groceries added.

Successfully changed initial limit of Category Groceries, from 100 € to 300 €.

Successfully added item Meat to category Groceries with price 50€

Successfully added item Potatoes to category Groceries with price 30€.

Current Balance of Category Groceries is equal to 140 €.

Desired Category does not exist.

The sum of all items in Category Groceries is equal to 160 €.

Desired Category does not exist.

Category Meat does not exist and therefor you cannot remove this item.

Category EntertainmentCategory with the name Entertainment added.

Successfully changed initial limit of Category Entertainment, from 100 € to 30 €.

Successfully added item MovieTickets to category Entertainment with price 28€.

Item Price cannot exceed Limit. Your current balance is 2 €.

Cannot change Limit to be 0 or less.

Cannot add an item to a category that doesn't exist.

Desired Category does not exist.

Desired Category does not exist.