Universitatea Tehnica din Cluj-Napoca
Departament Calculatoare
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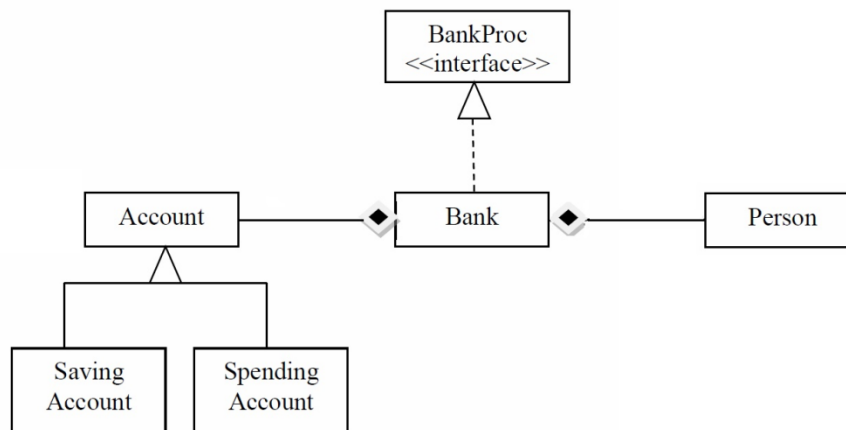ioan.salomie@cs.utcluj.ro, cristina.pop@cs.utcluj.ro

Homework 4

Objective

Design by Contract Programming Techniques, Design Patterns

Description

Consider the system of classes in the class diagram below.

1. Define the interface BankProc (add/remove persons, add/remove holder associated accounts, read/write accounts data, report generators, etc). Specify the pre and post conditions for the interface methods.
2. Design and implement the classes Person, Account, SavingAccount and SpendingAccount. Other classes may be added as needed (give reasons for the new added classes).
3. An Observer DP will be defined and implemented. It will notify the account main holder about any account related operation.
4. Implement the class Bank using a predefined collection which uses a hashtable. The hashtable key will be generated based on the account main holder (ro. titularul contului). A person may act as main holder for many accounts. Use JTable to display Bank related information.
   4.1 Define a method of type "well formed" for the class Bank.
   4.2 Implement the class using Design by Contract method (involving pre, post conditions, invariants, and assertions).
5. Design and implement a test driver for the system.
6. The account data for populating the Bank object will be loaded/saved from/to a file.