UML for Analysts

Jason Gorman

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"I am currently working on a team which is [in] the process of adopting RUP and UML standards and practices. After one of our design sessions, I needed to lookup some information and came across your site. Absolutely great! Most [of] the information I've had questions about is contained within your tutorials and then some."

"Really great site... I have been trying to grasp UML since the day I saw Visual Modeler. I knew a few things but there were gaps. Thanks to your site they have shrunk considerably."

"I went on a UML training course three months ago, and came out with a big folder full of hand-outs and no real understanding of UML and how to use it on my project. I spent a day reading the UML for .NET tutorials and it was a much easier way to learn. 'Here's the diagram. Now here's the code.' Simple."

Requirements Analysis Using UML (2 Days)

Since Autumn 2003, over 180,000 Java and .NET developers have learned the Unified Modeling Language from **Parlez UML** (http://www.parlezuml.com) , making it one of the most popular UML training resources on the Internet.

Modeling For A Reason

Unlike other UML courses, Requirements Analysis using UML introduces only the elements of modeling you will need to get the job done.

Learning By Doing

By working through a practical mini-project, you will learn key modeling notations as well as useful analysis techniques within a simple iterative process that you will be able to apply to your own projects immediately.

Beyond Use Cases

Other analysis courses start with functional requirements and leave out the critical element of any software project – where do those requirements come from in the first place?

Requirements Analysis using UML starts at the beginning with business requirements and business models, and demonstrates a simple process for getting from business goals to system use cases and beyond, giving clear traceability at all levels of your enterprise architecture

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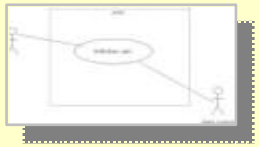
UNIFIED MODELING LANGUAGE

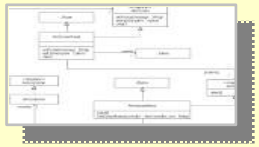
What Will I Learn?

Requirements Analysis using UML takes you on a journey from the business goals of your project to an object oriented description of system functionality. You will only learn what you need to know to get the job done, but enough to provide a solid foundation for further learning.



Use Case Diagrams

Model the users of the system and the goals they can achieve by using it

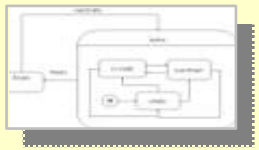


Class Diagrams

Model types of objects and the relationships between them.

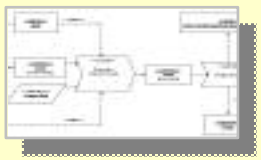
Activity Diagrams

Model the flow of use cases and single and multi-threaded code



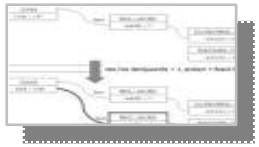
Statechart Diagrams

Model the lifecycle of objects and event-driven logic



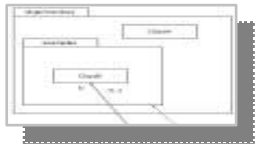
Business Modeling

Apply UML to business goals, processes, rules and structure



Object Diagrams & Filmstrips

Model snapshots of the running system and show how actions change object state



Packages & Model Management

Organise your logical and physical models with packages

User Experience Modeling

Design user-centred systems with UML

Enterprise Architecture

Tracing your models through the layers of the Zachman Framework

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Plus simple approaches to:

- Iterative & Incremental Development
- Change & Defect Management
- User Acceptance Testing
- Project Planning & Tracking

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In This Section

- Use Case diagrams
- Class Diagrams
- Object Diagrams & Filmstrips
- Sequence Diagrams
- State Transition Diagrams
- Packages & Model Management
- Model-View-Controller & Robustness Analysis

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Use Case Diagrams

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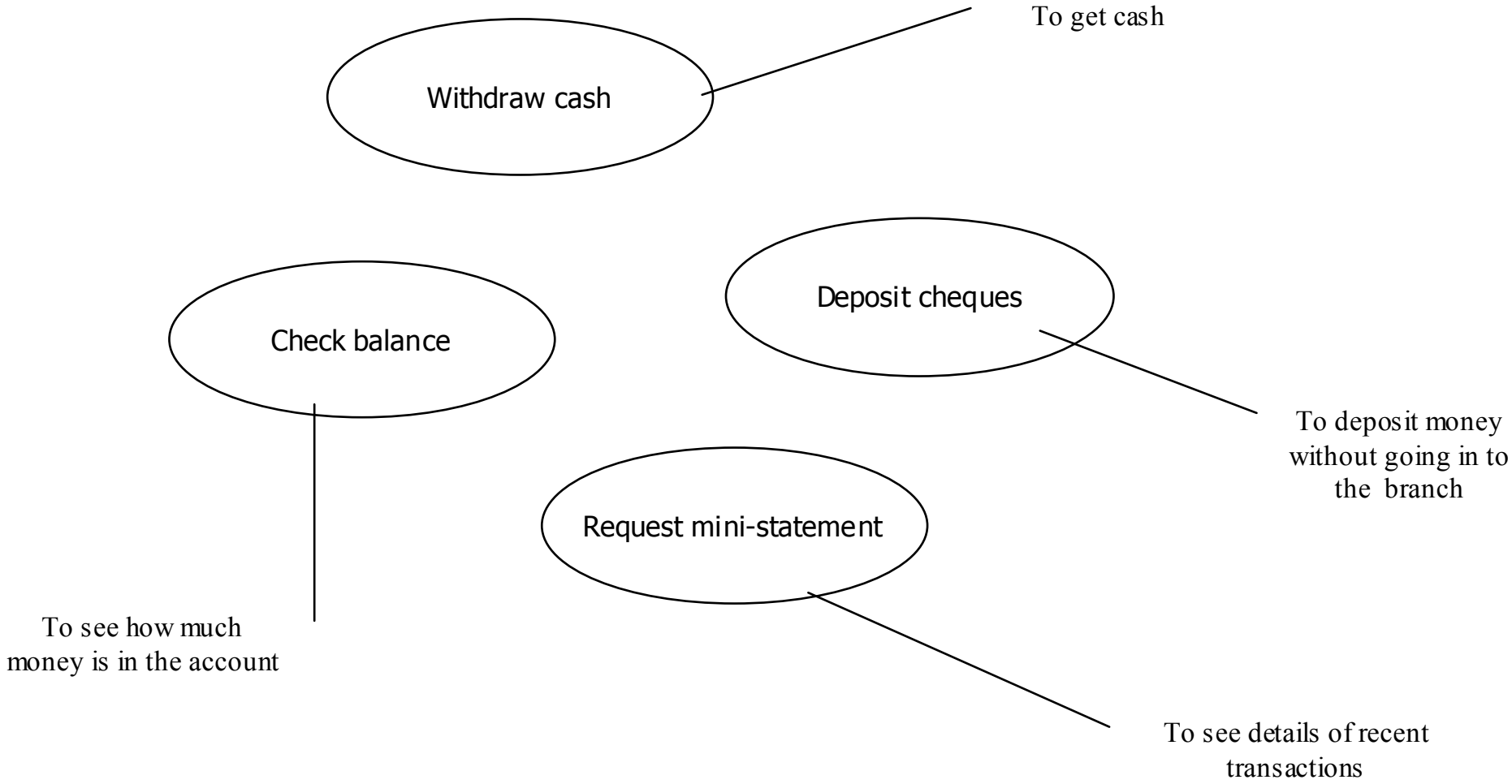
Users Achieve Functional Goals Through Use Cases



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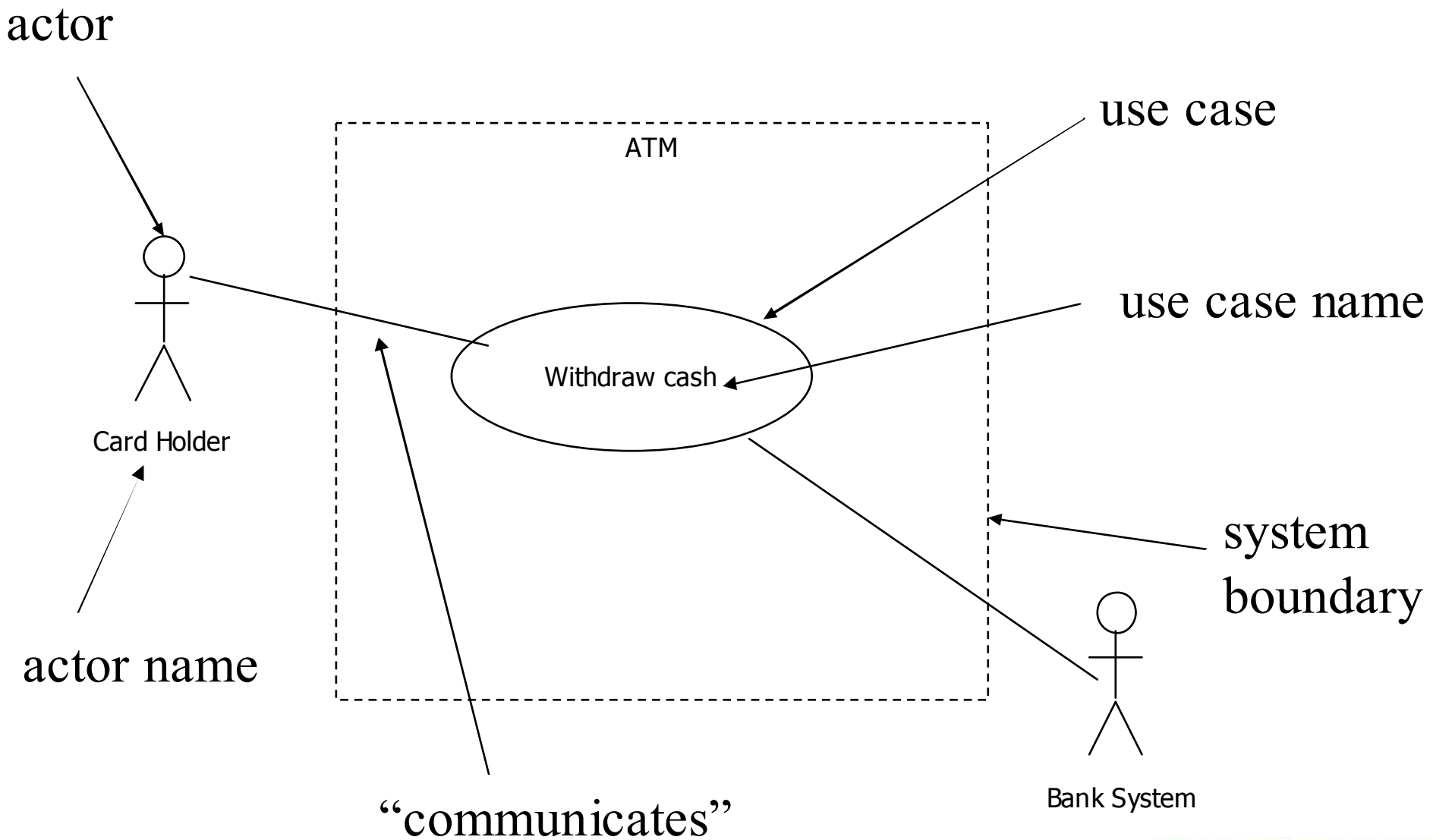
Use Case Diagrams



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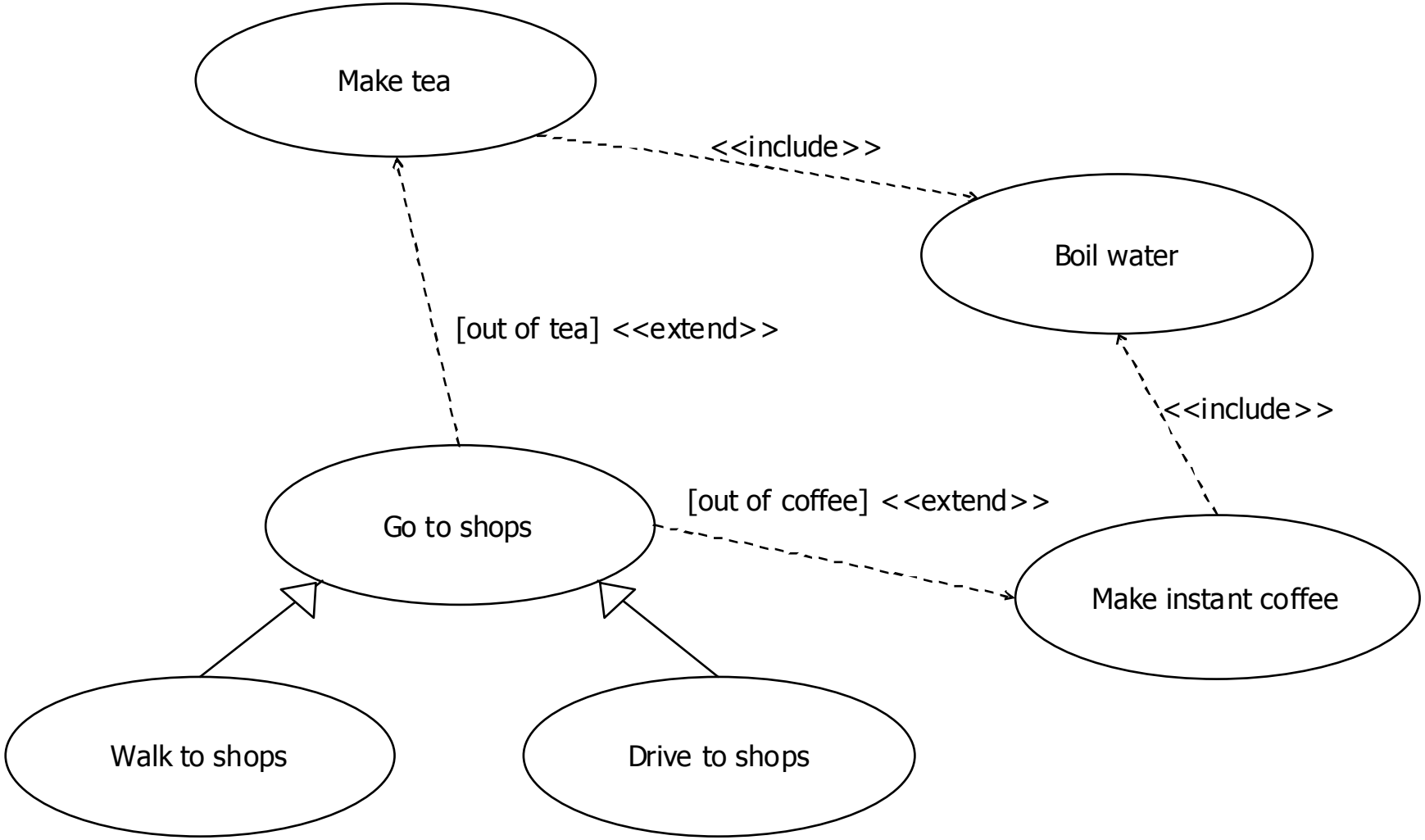
Relationships Between Use Cases



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Class Diagrams

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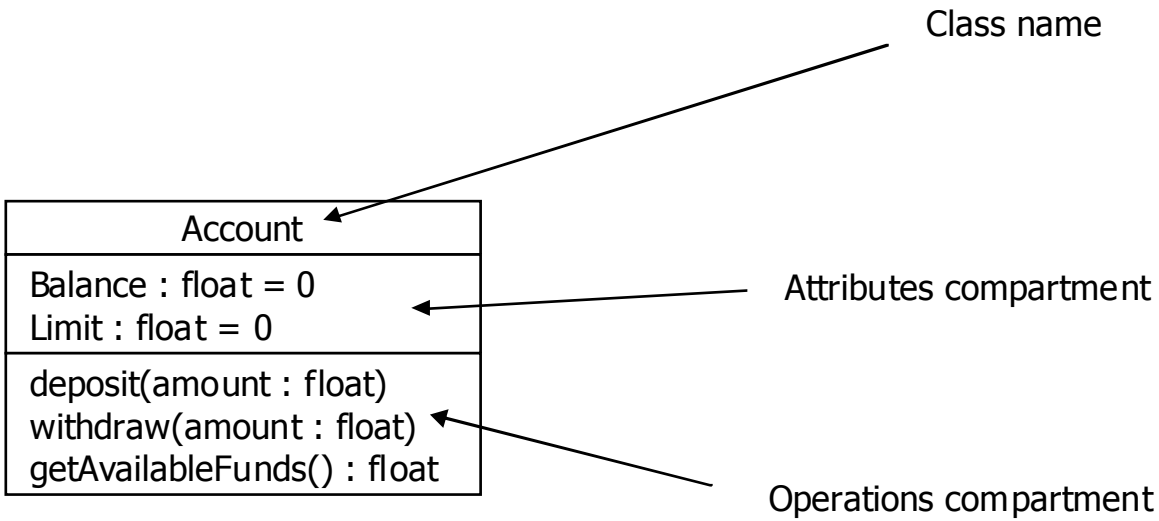
Classes



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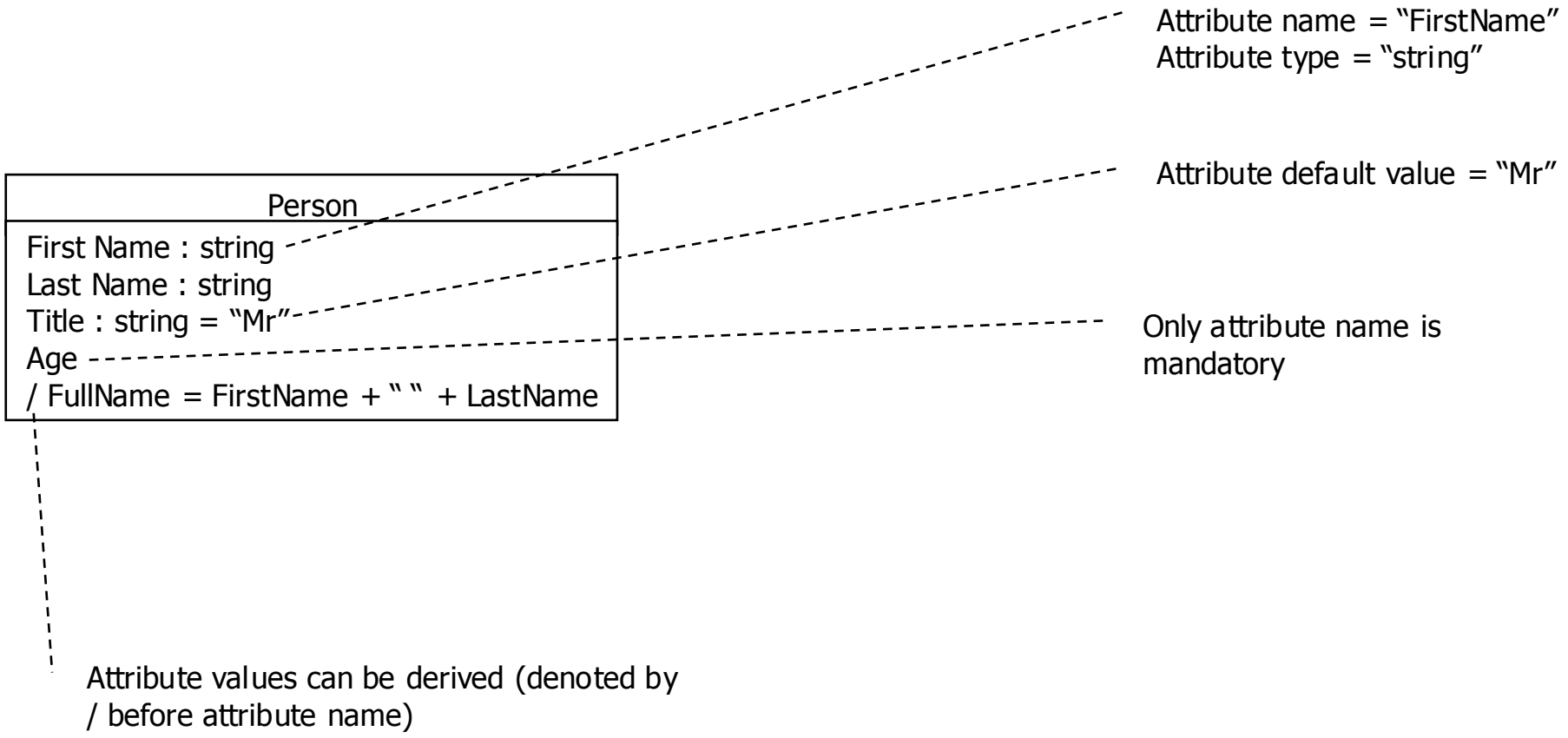
Attributes



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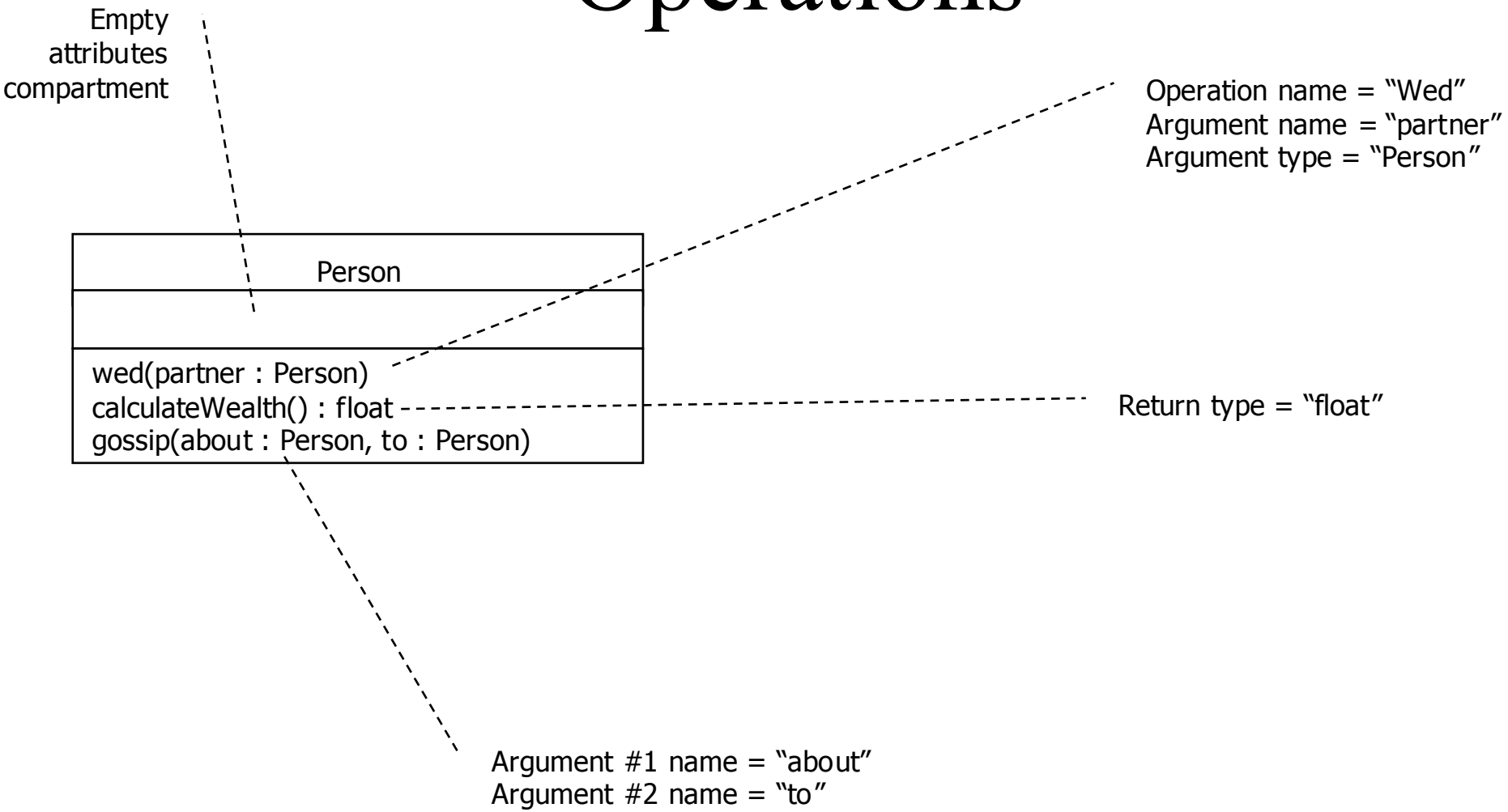
Operations



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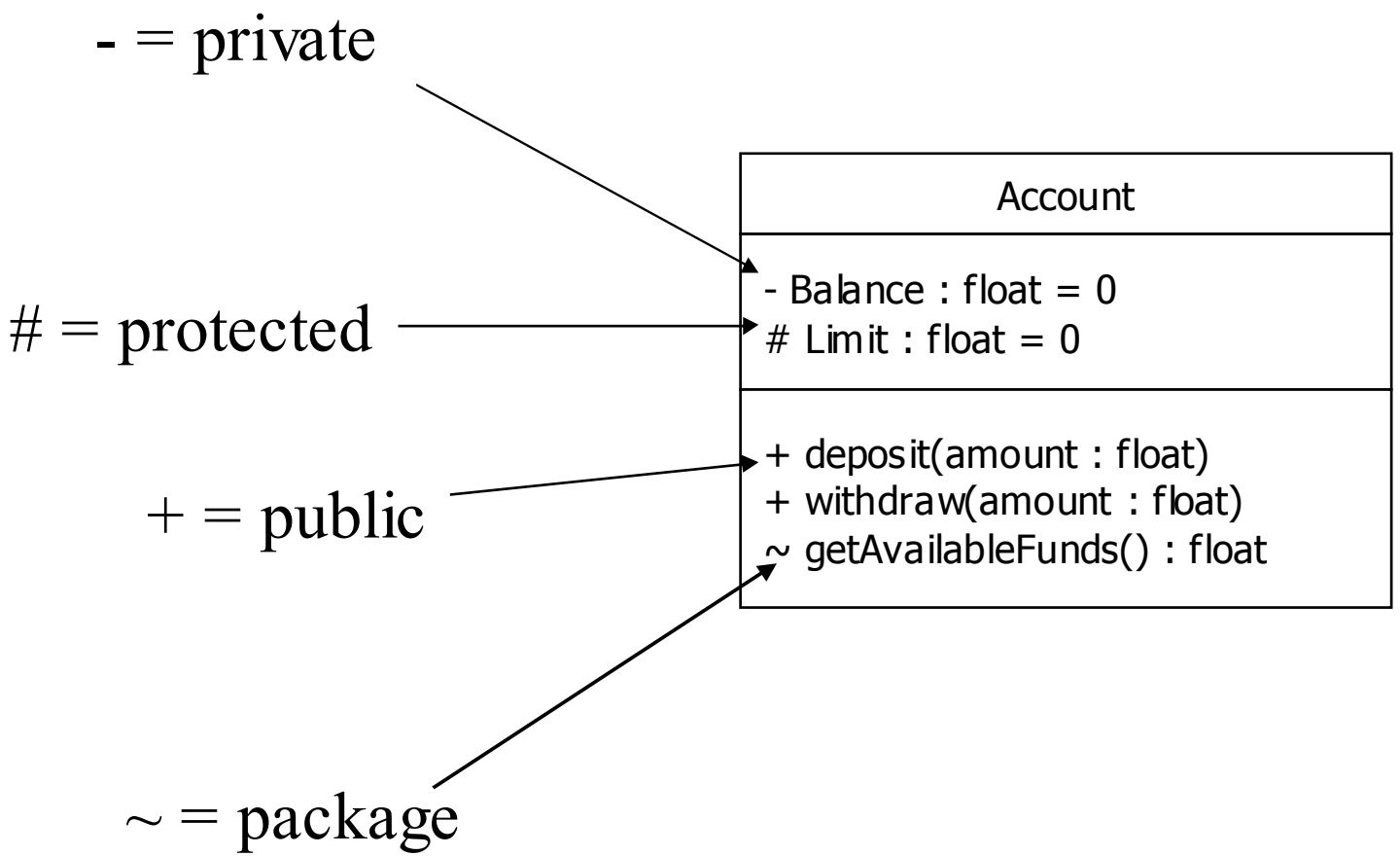
Visibility



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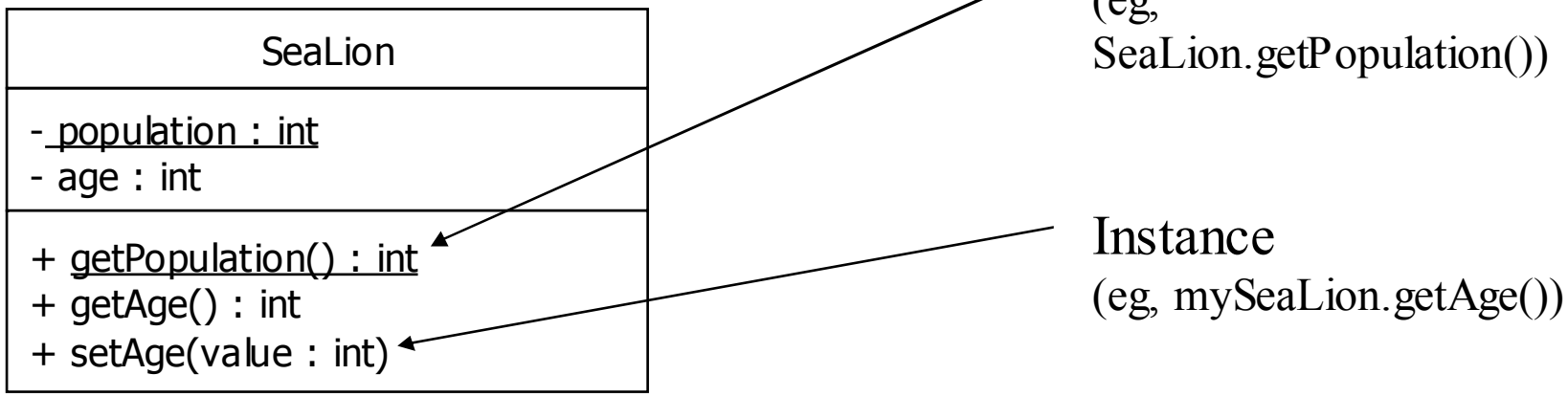
Scope



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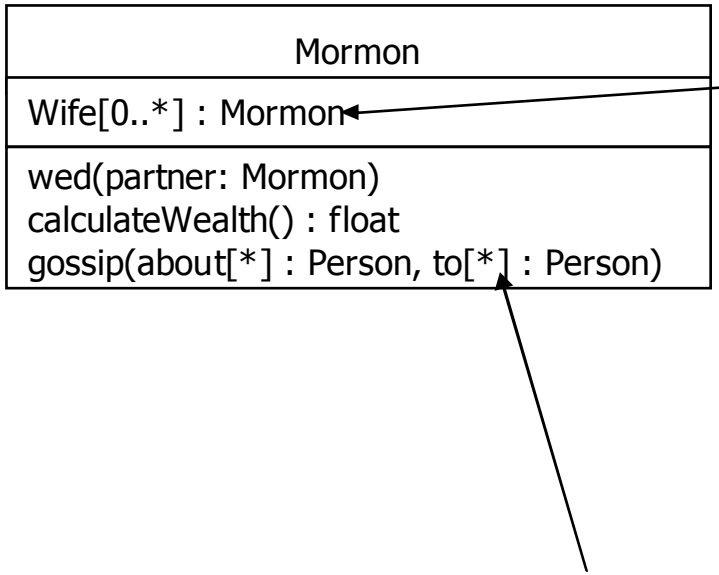
Multiplicity



A Mormon can be married to more than one person at the ame time, but may not be married at all.

The lower bound of the multiplicity of Wife is therefore 0, and the upper bound is *many* (*)

A Mormon can gossip to *many* people at once about *many* people

* Implies a lower bound of 0

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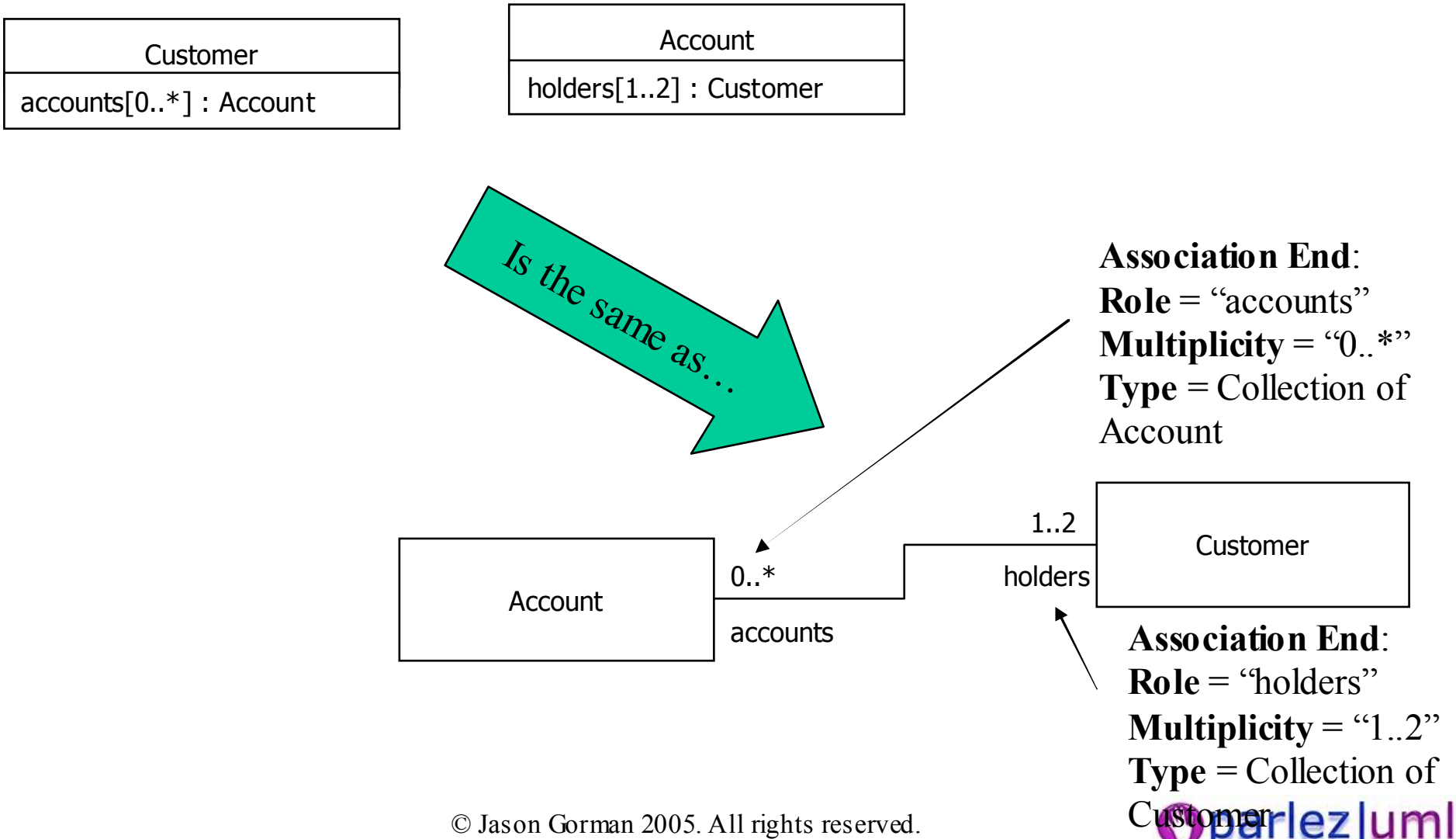
Associations



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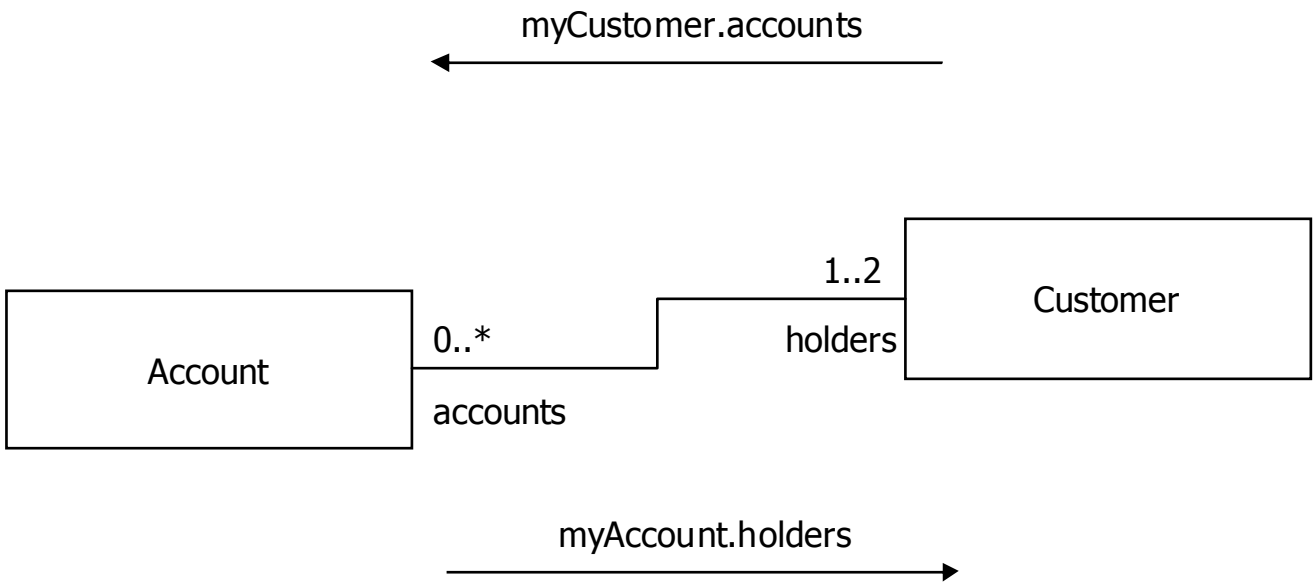
Navigation



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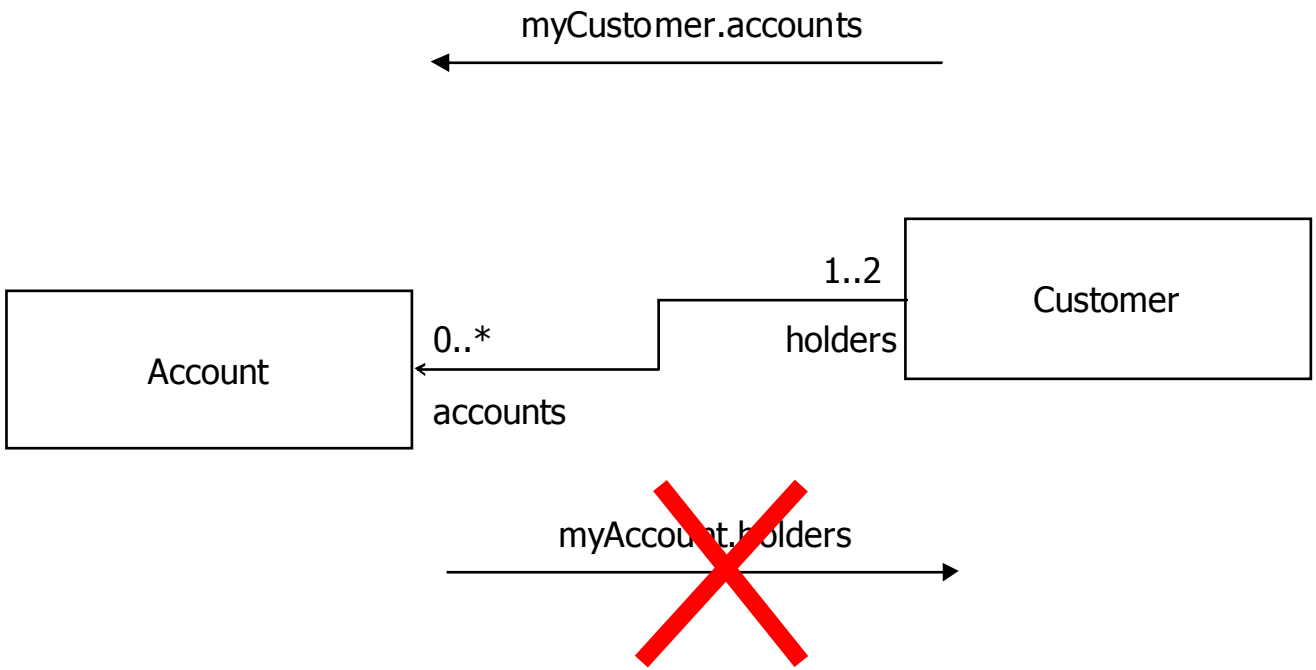
Navigability



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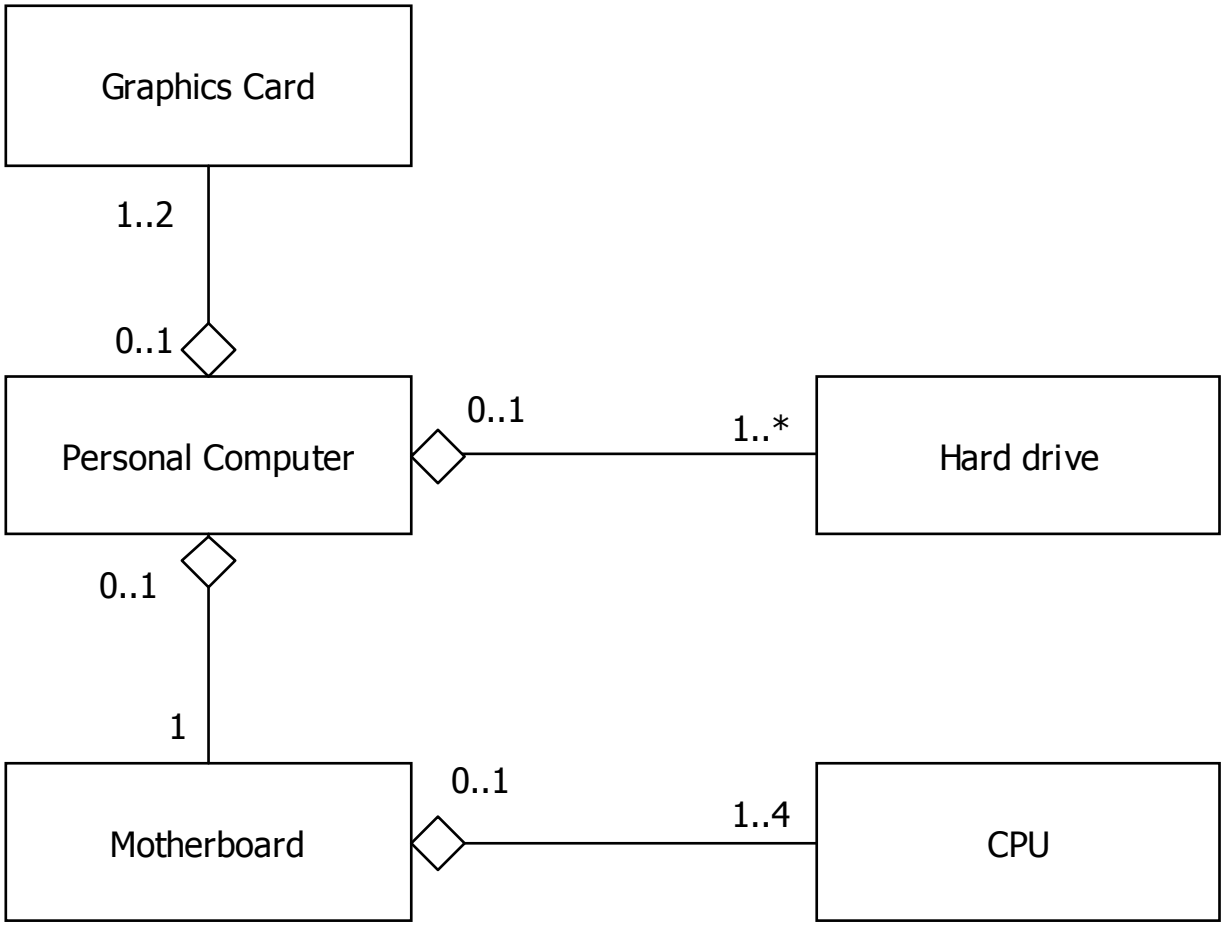
Aggregation



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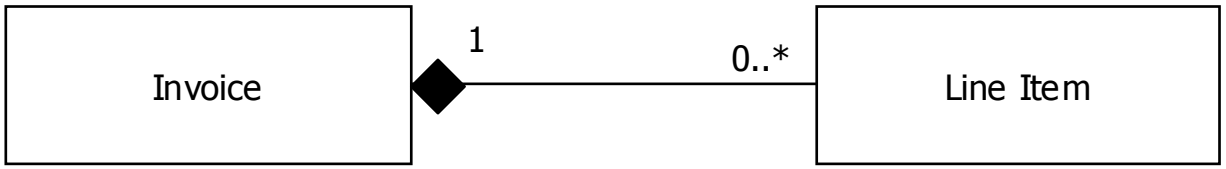
Composition



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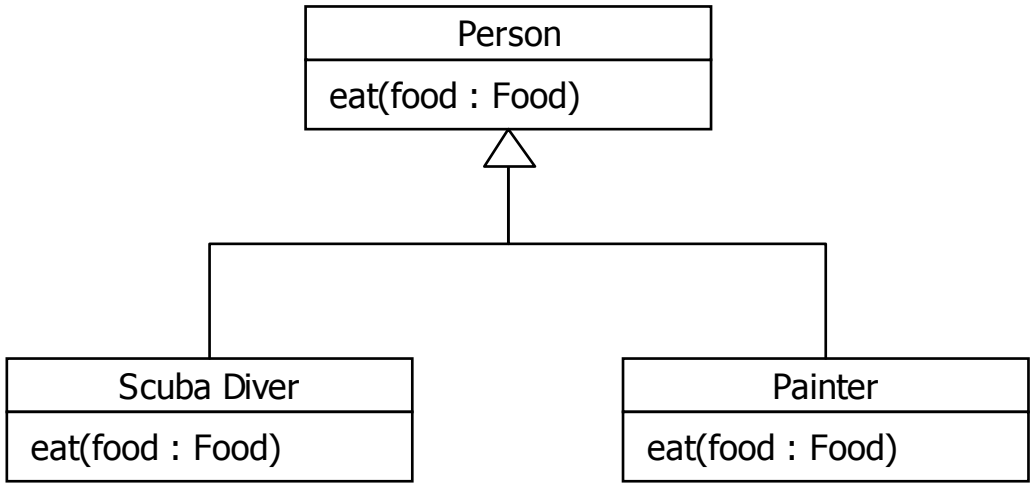
Generalization



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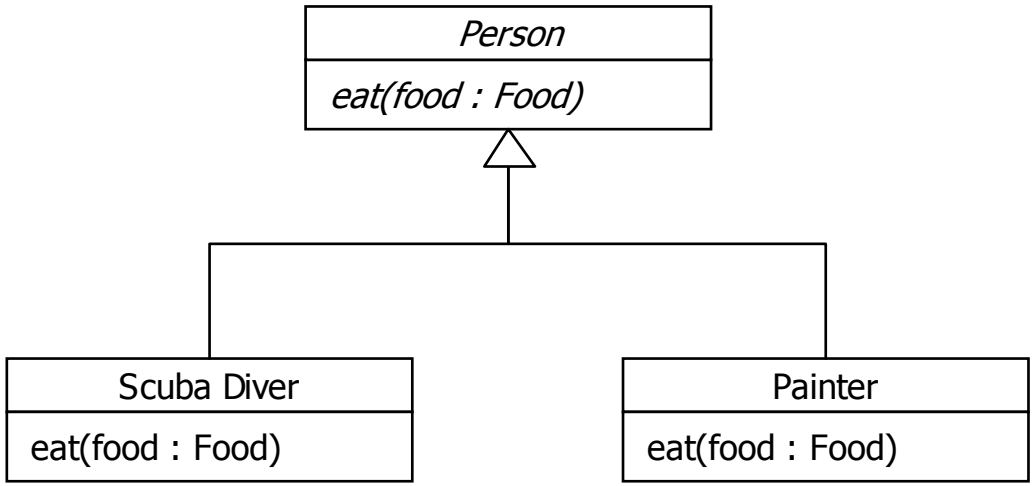
Abstract Classes & Operations



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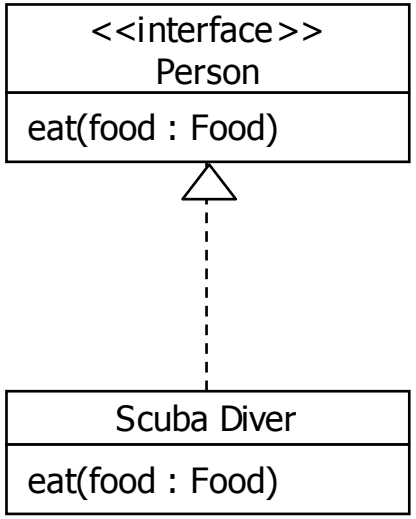
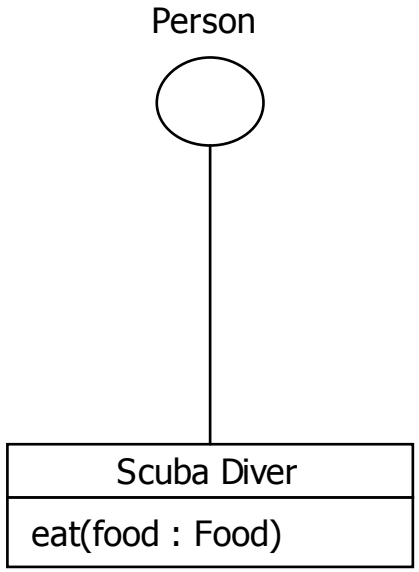
Interfaces & Realization





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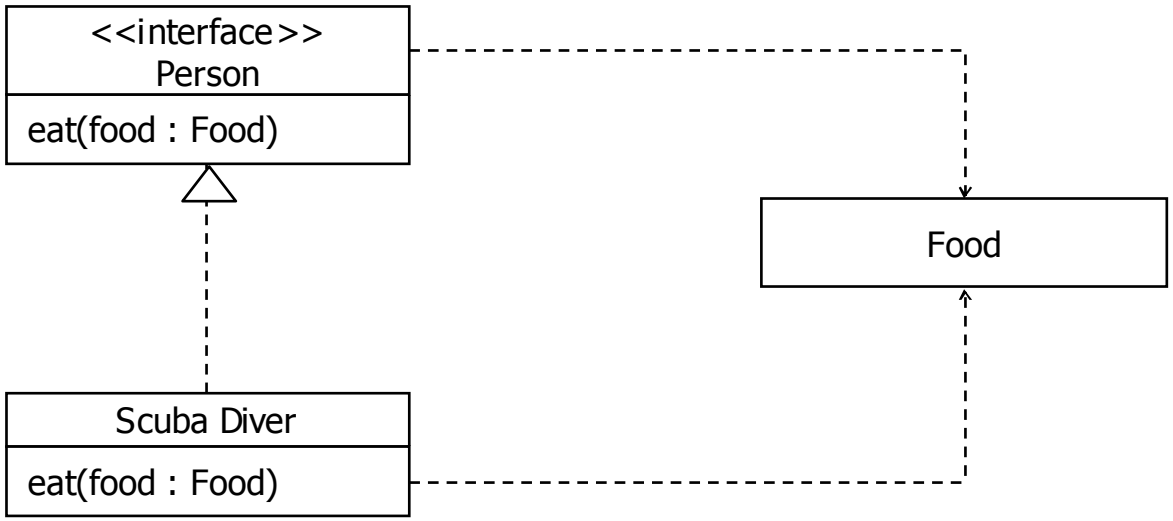
Dependencies



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UML for Managers (1 Day)

The key to success in IT and business projects is **effective communication**. Building a shared understanding requires that all project stakeholders **speak the same language**.

A Picture Is Worth 1000 Lines of Code

Visual Languages enable project stakeholders to express complex and subtle ideas in a way that is much **easier to digest** than wordy written specifications. Visual Languages make communication and understanding **quicker and easier**, and the effective use of Visual Models can greatly improve a project's chances of success.

Many Problems. One Visual Language.

The industry-standard **Unified Modeling Language** can be used to describe many aspects of your business and the systems within it. UML can be applied **at all levels**, from your corporate strategy right down to the design of your databases. This makes it possible to unify different views of your business and to **share and reuse knowledge** more effectively. It also helps you to **learn more about your business** and how it could be improved.

Are You Ready to Parlez UML?

UML for Managers introduces business decision makers and IT strategists to the key aspects of Visual Modeling using UML. It highlights areas where Visual Modeling could be applied to your business, and helps you to build a practical and realistic roadmap for adopting UML across your enterprise.

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Object Diagrams & Filmstrips

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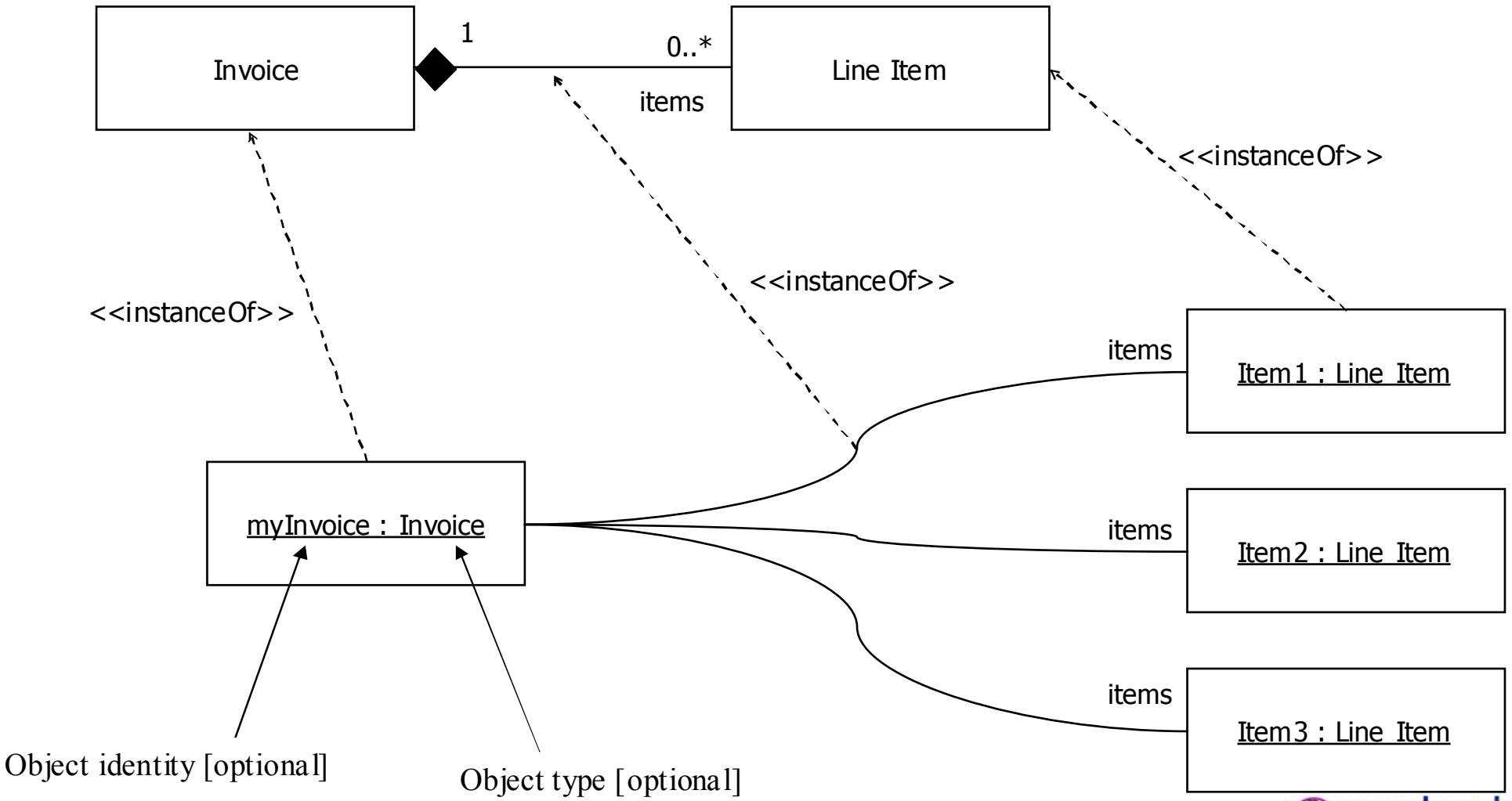
Instances of Class Diagrams



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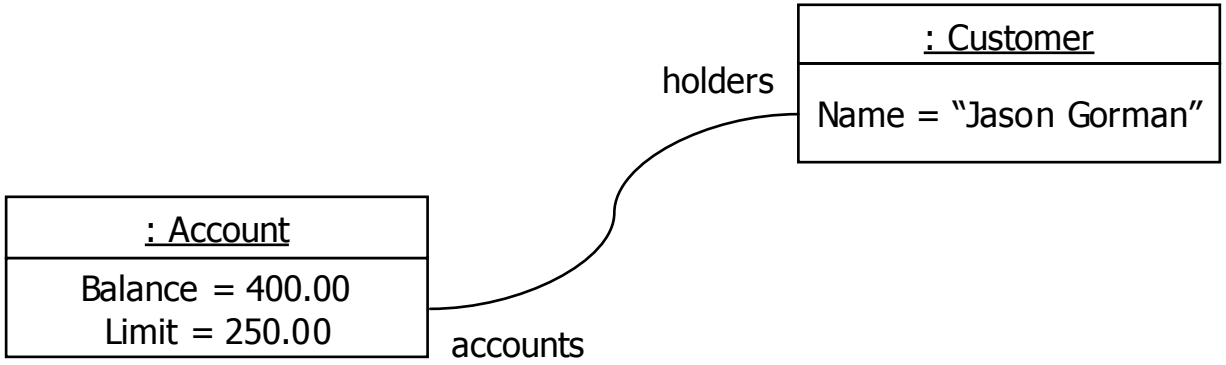
Object State



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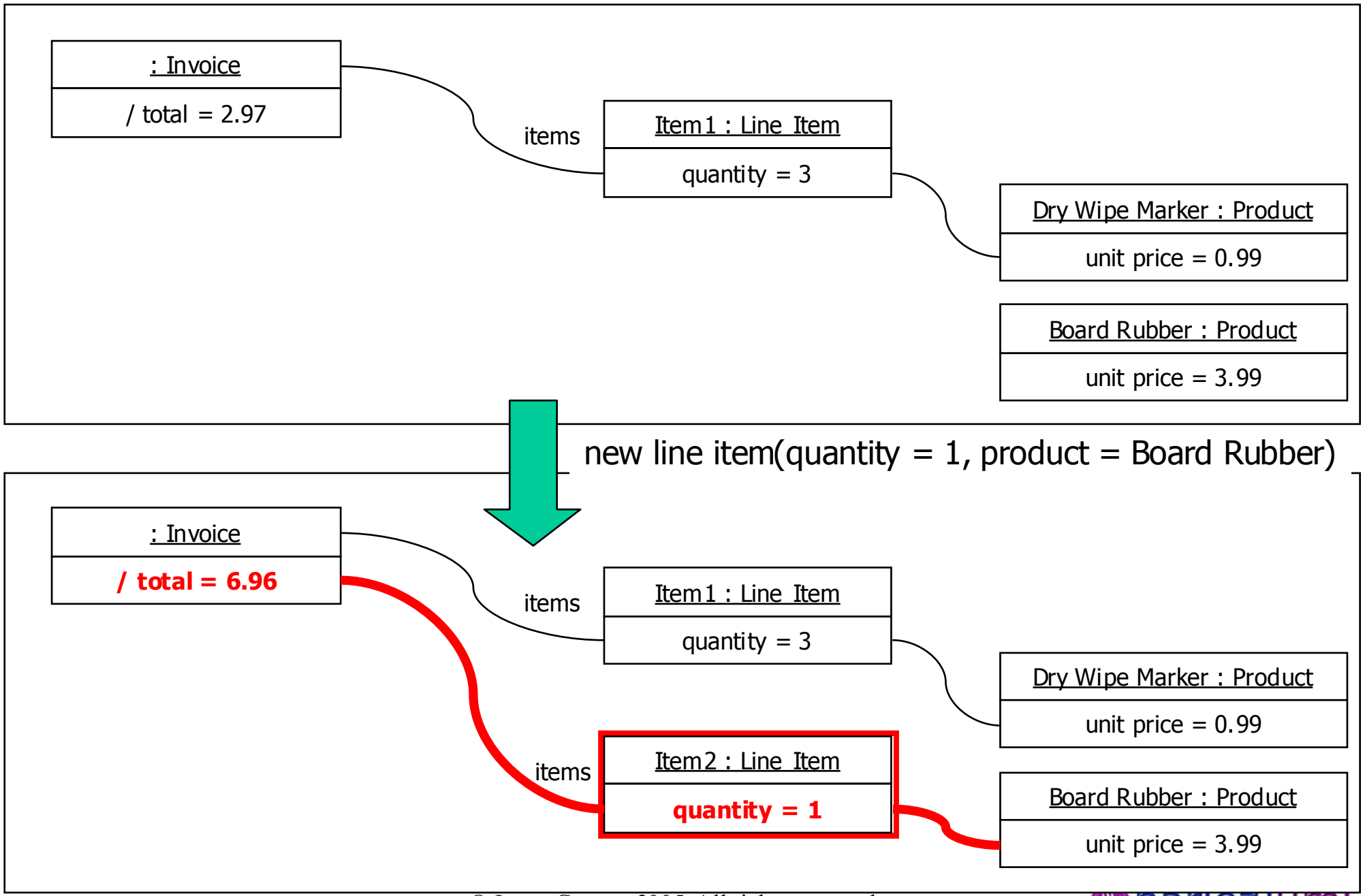
Filmstrips



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Sequence Diagrams

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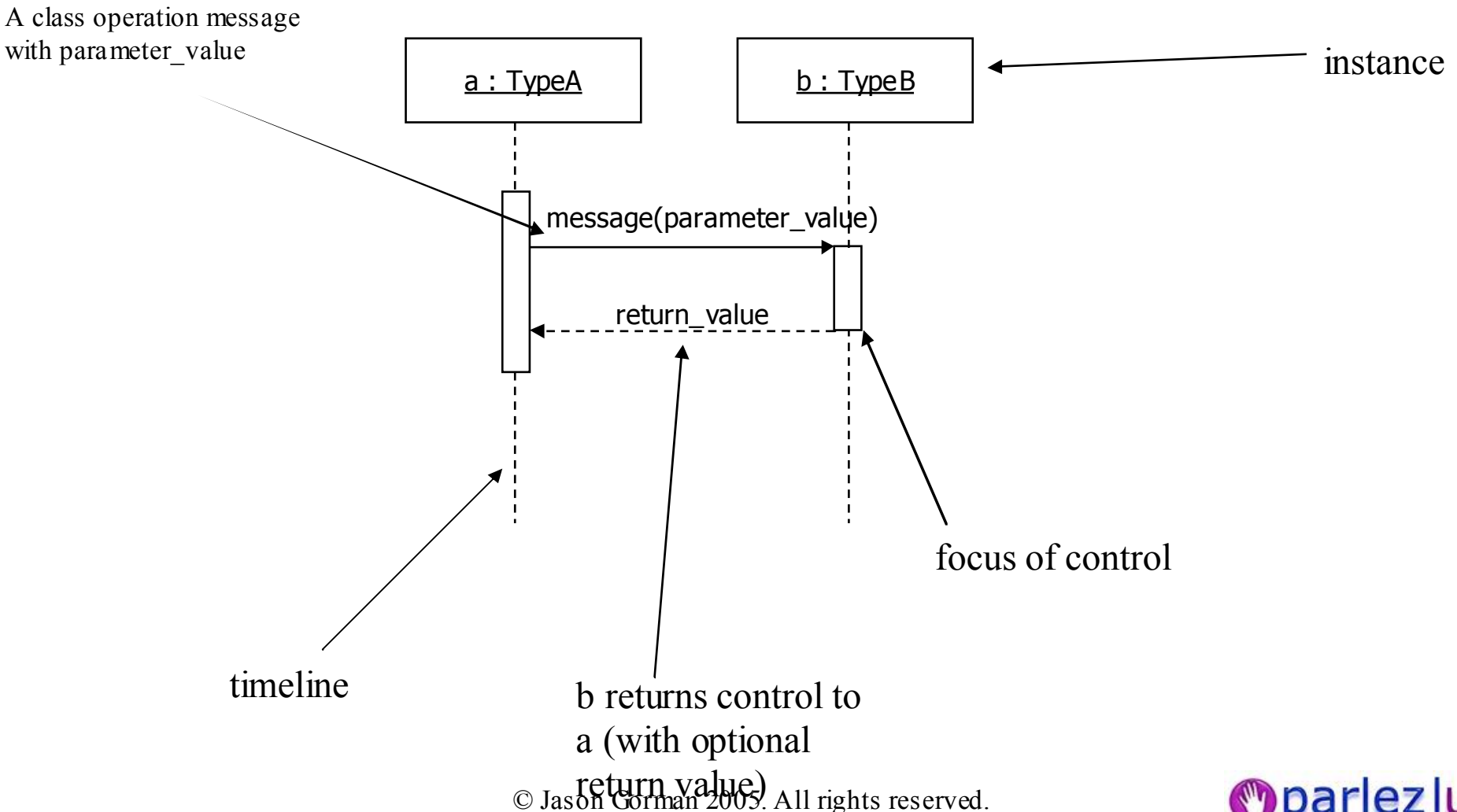
Objects Interact over Time



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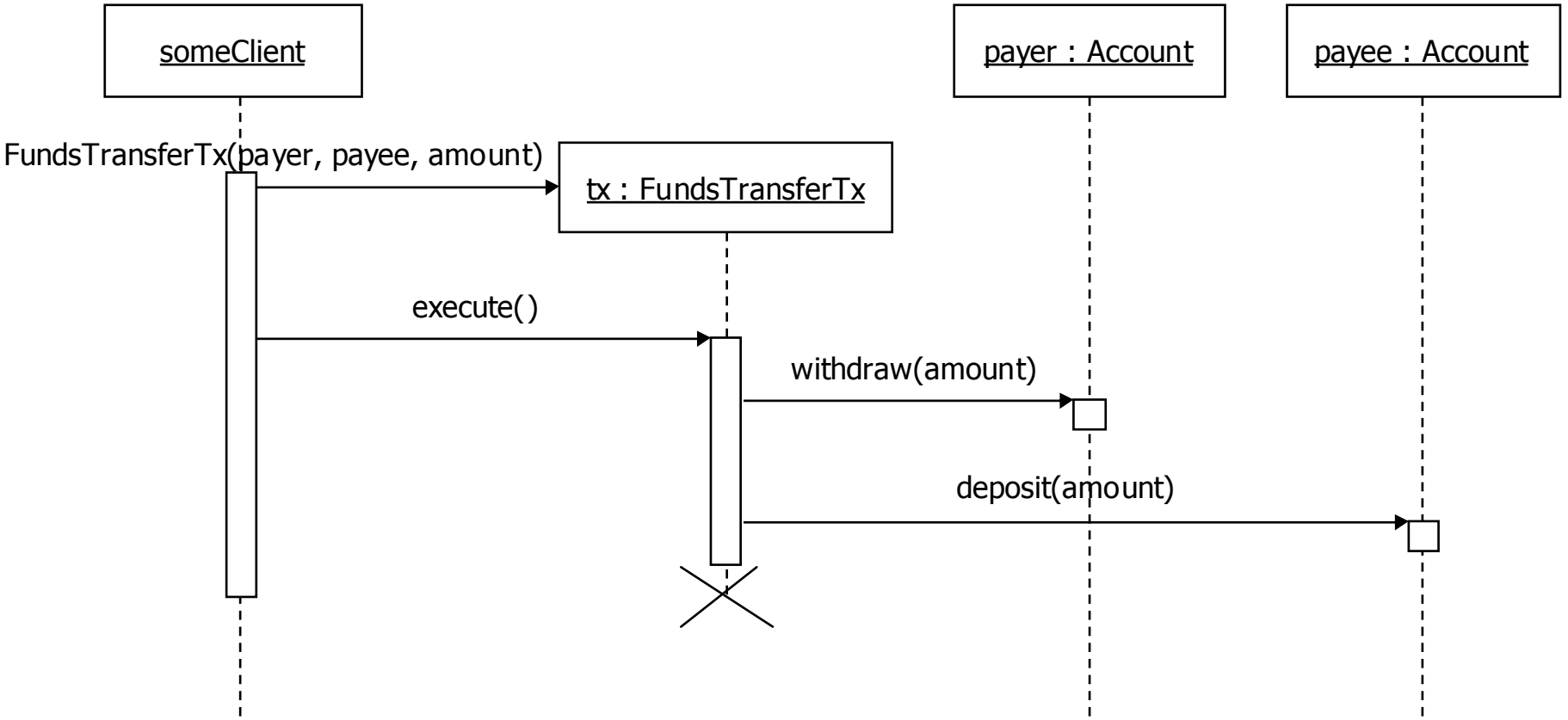
Object Creation & Garbage Collection



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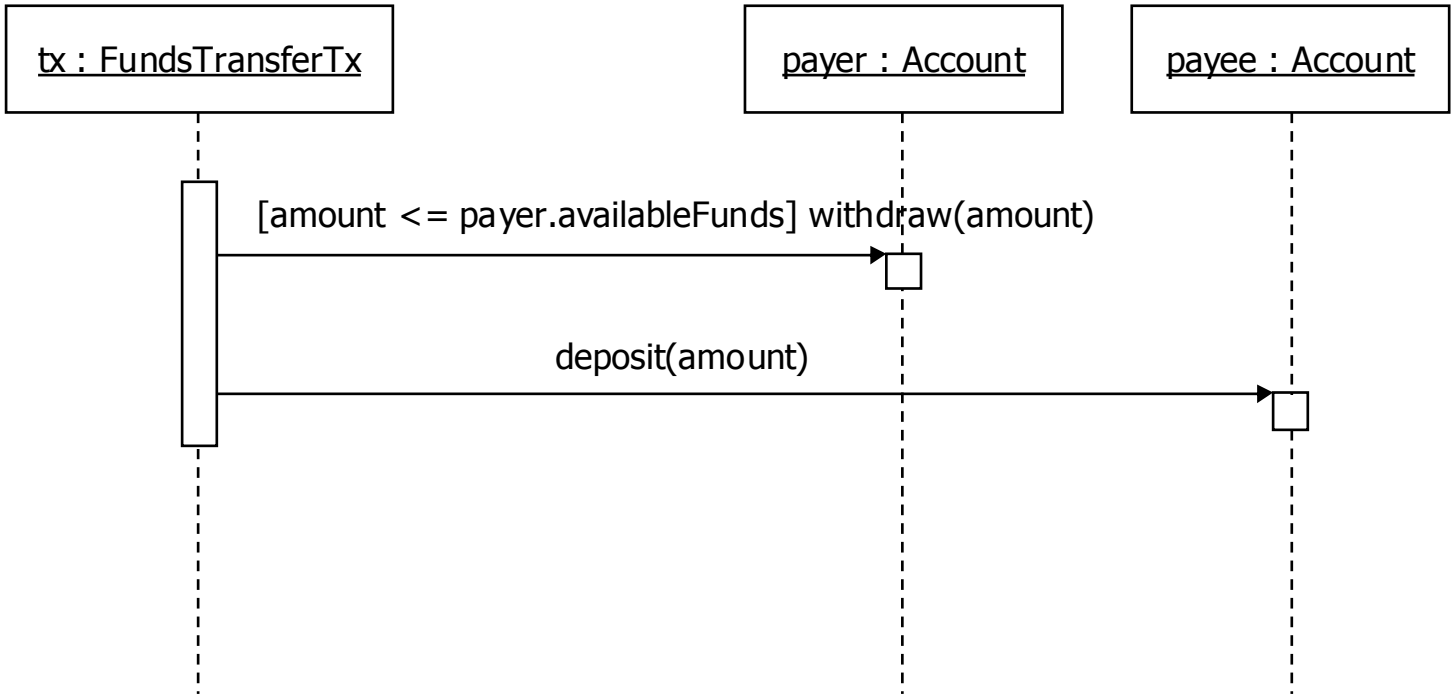
Conditional Messages



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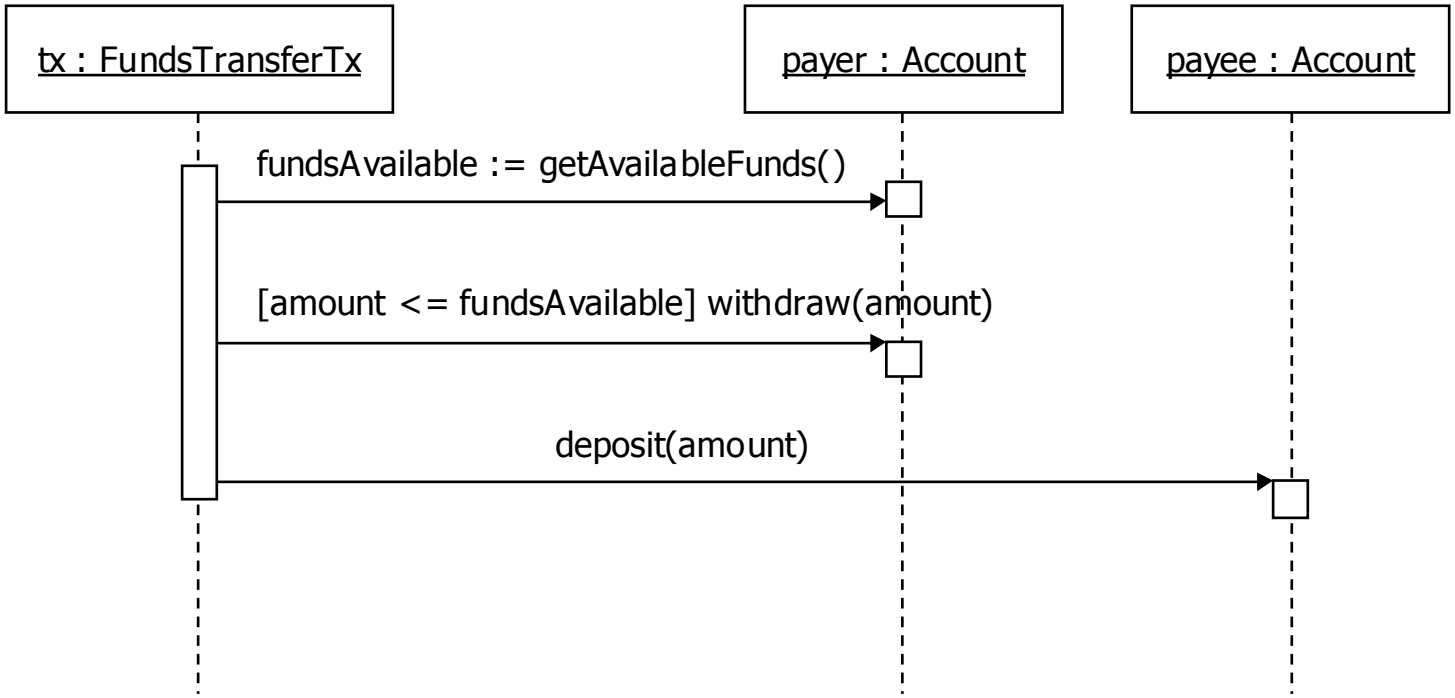
Assignments



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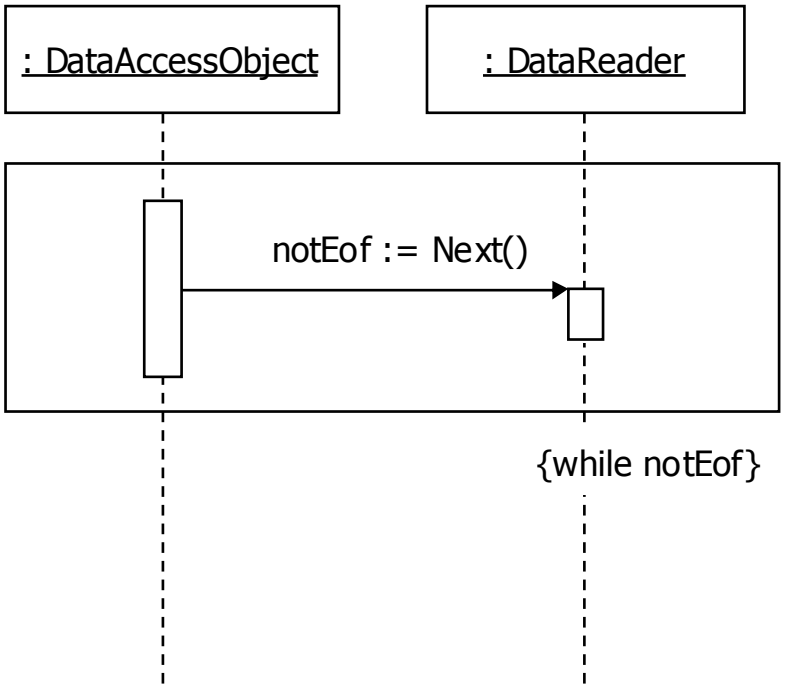
Iterations



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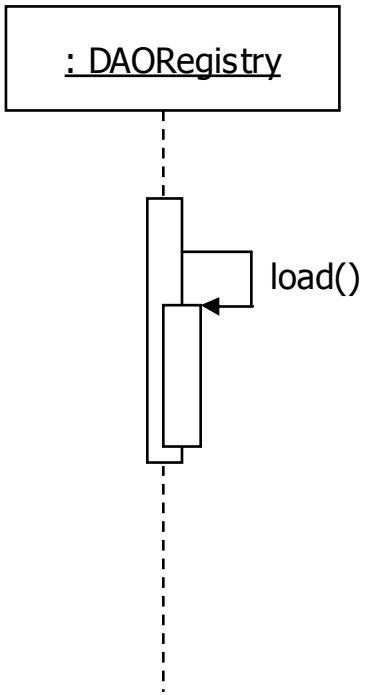
Recursion



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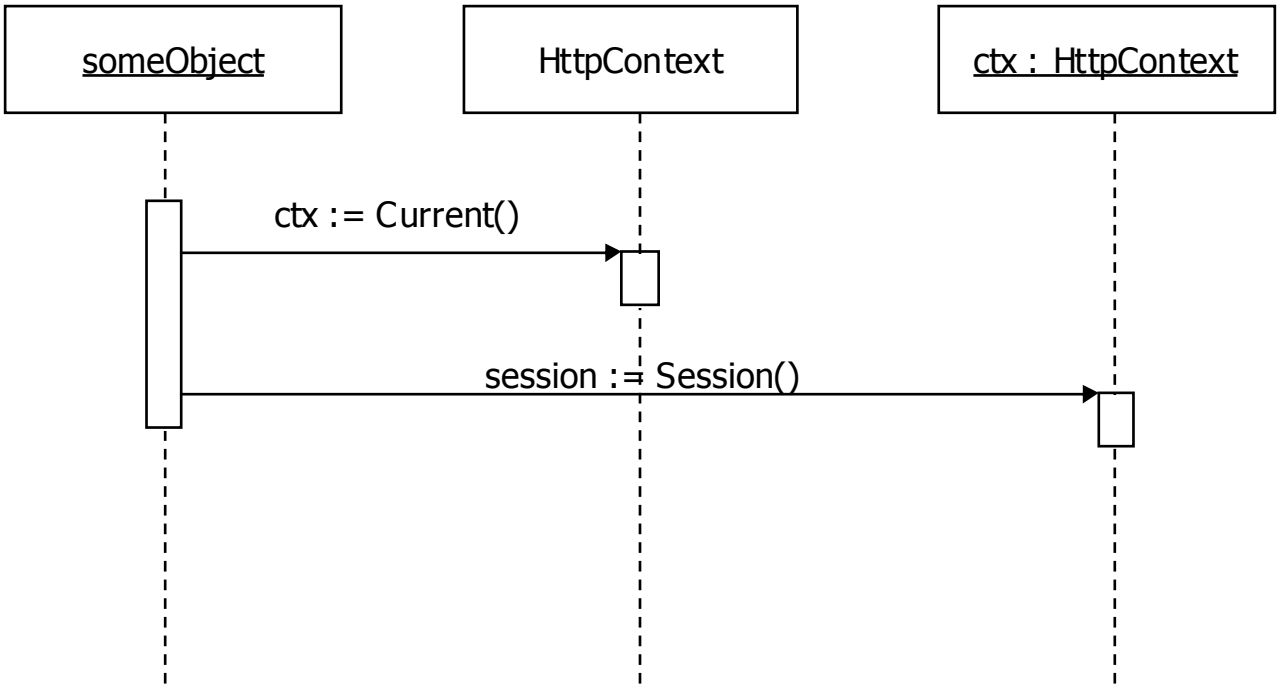
Using Class Operations



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State Transition Diagrams

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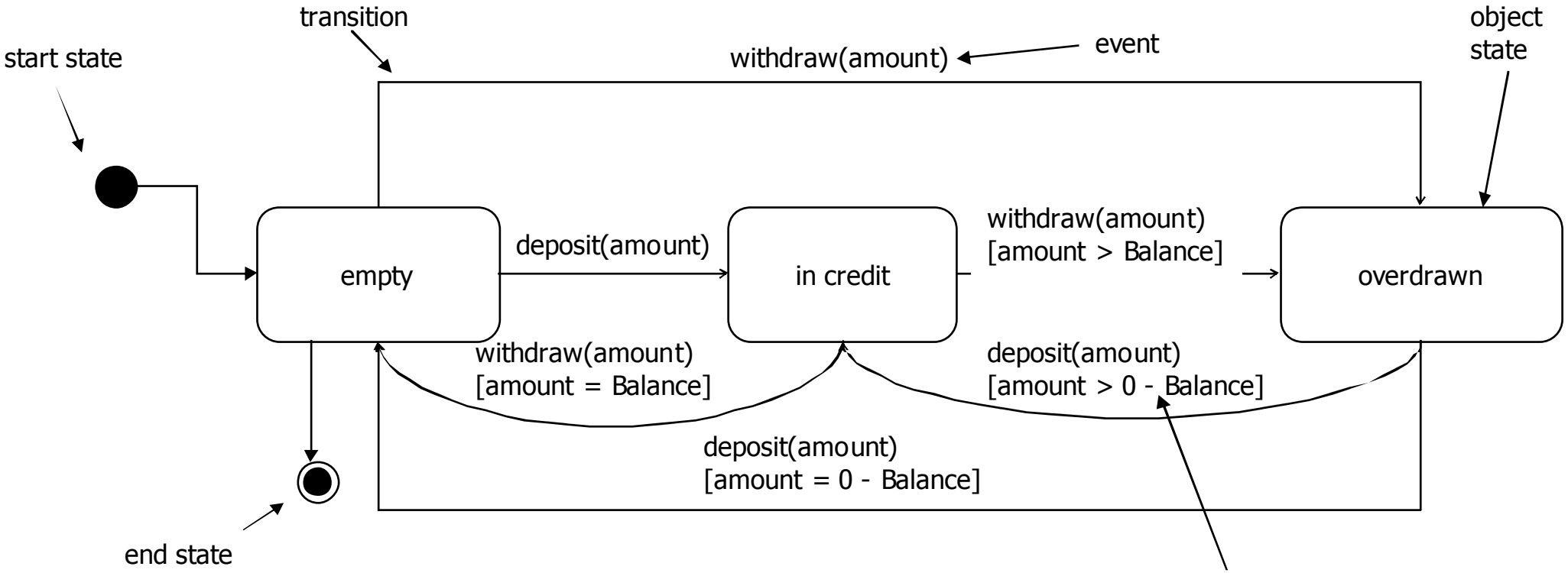
Discrete States & State Transitions

Account
Balance : float = 0
deposit(amount : float) withdraw(amount : float)

- Balance > 0 => in credit
- Balance = 0 => empty
- Balance < 0 => overdrawn



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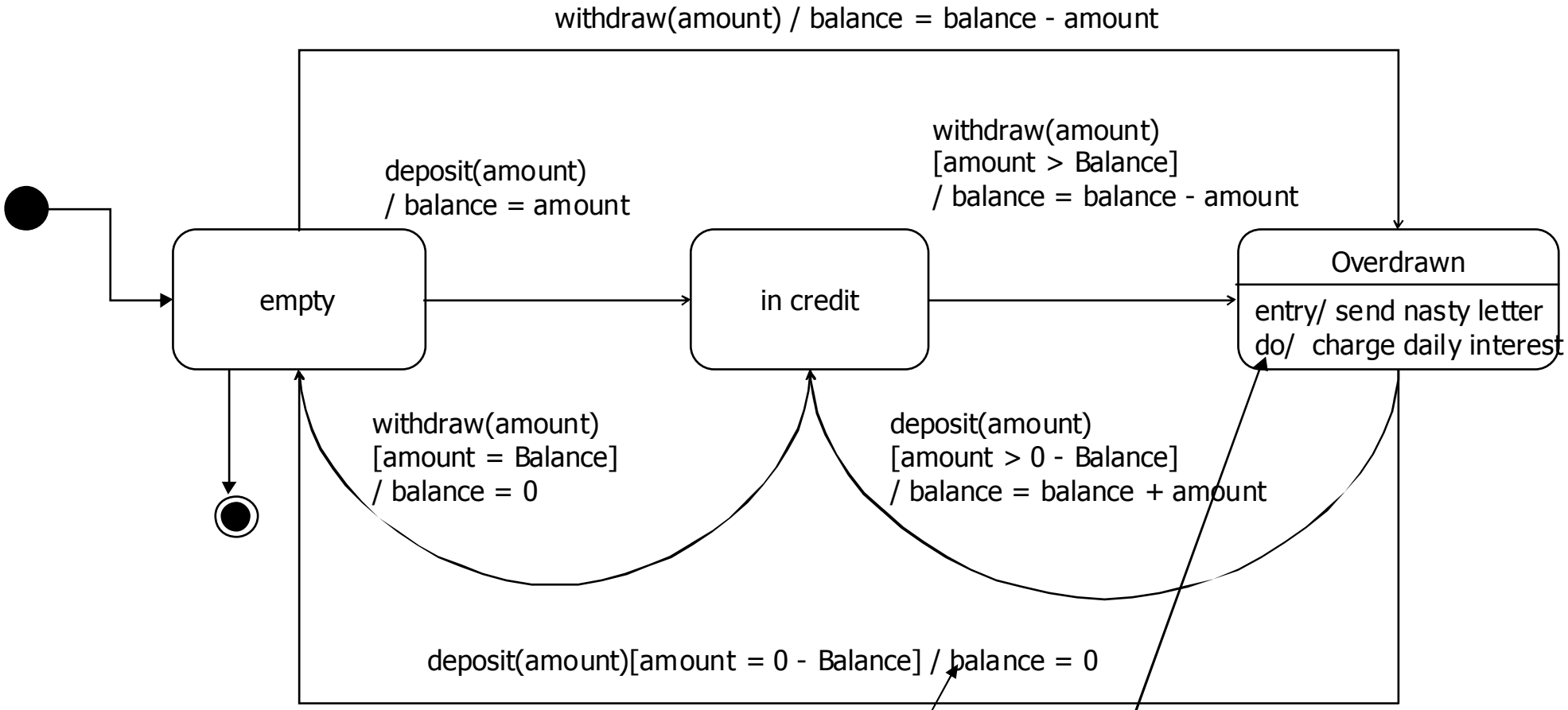
Transitions & Actions



event triggers action(s)

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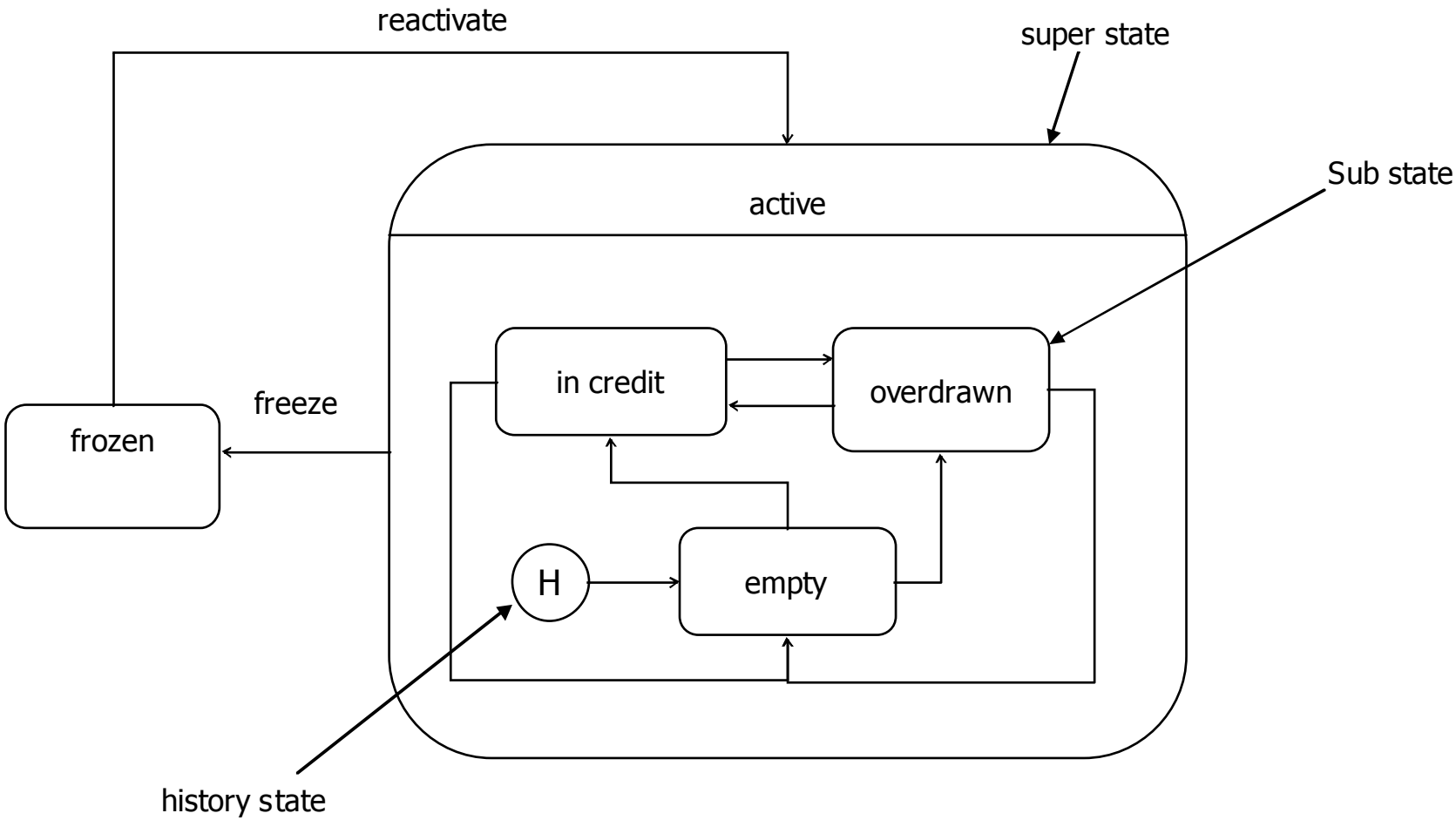
Sub states & History States



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Packages & Model Management

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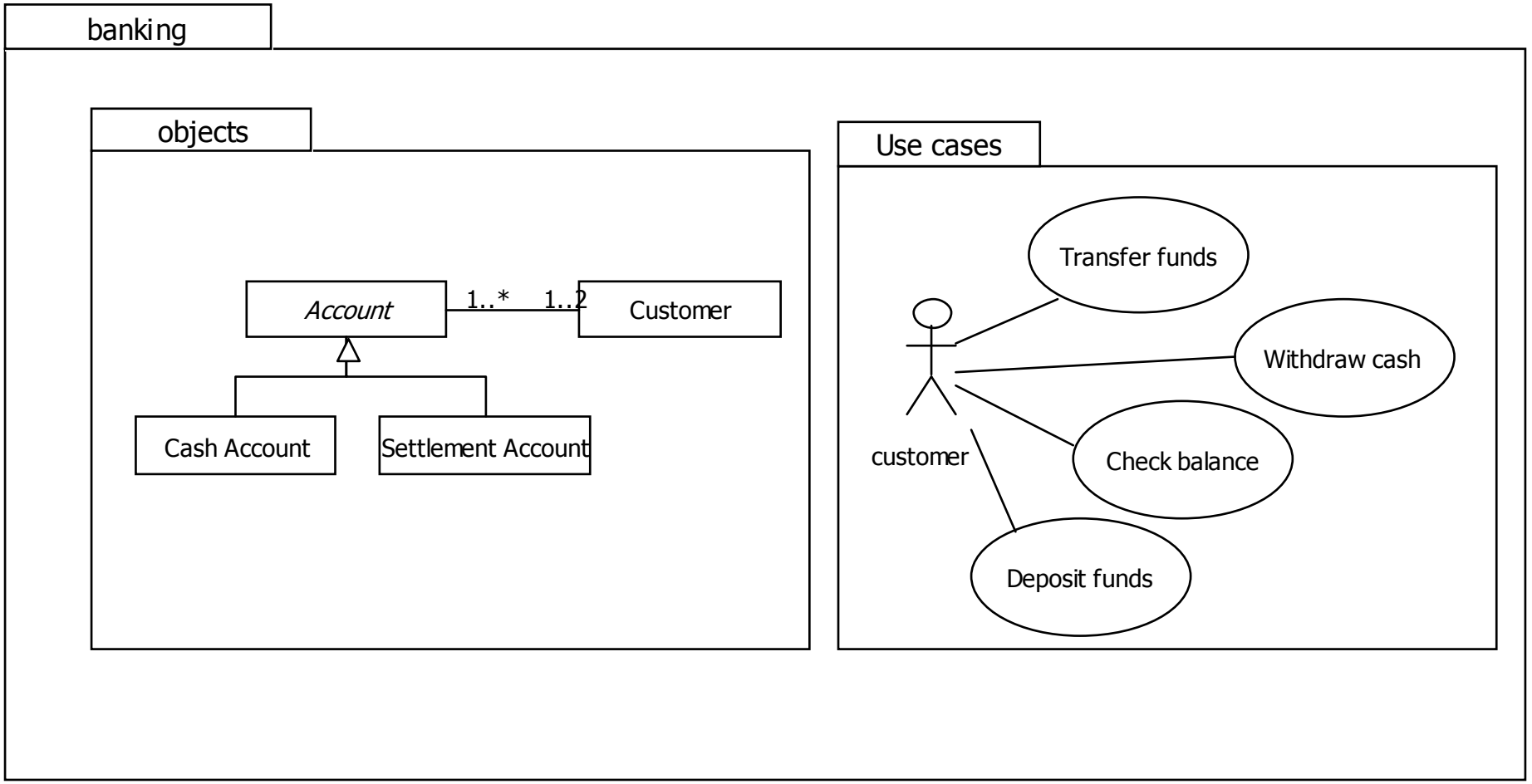
Organising Model Elements into Packages



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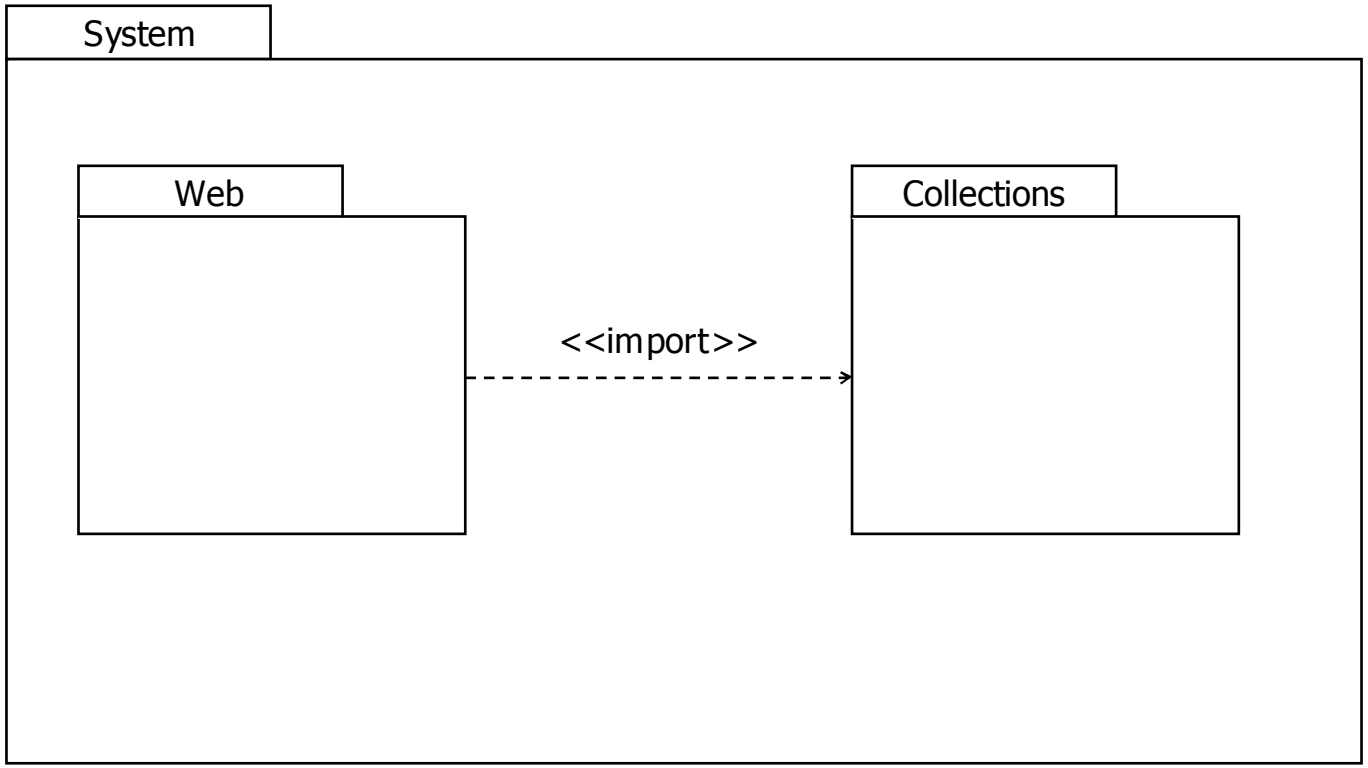
Package Dependencies



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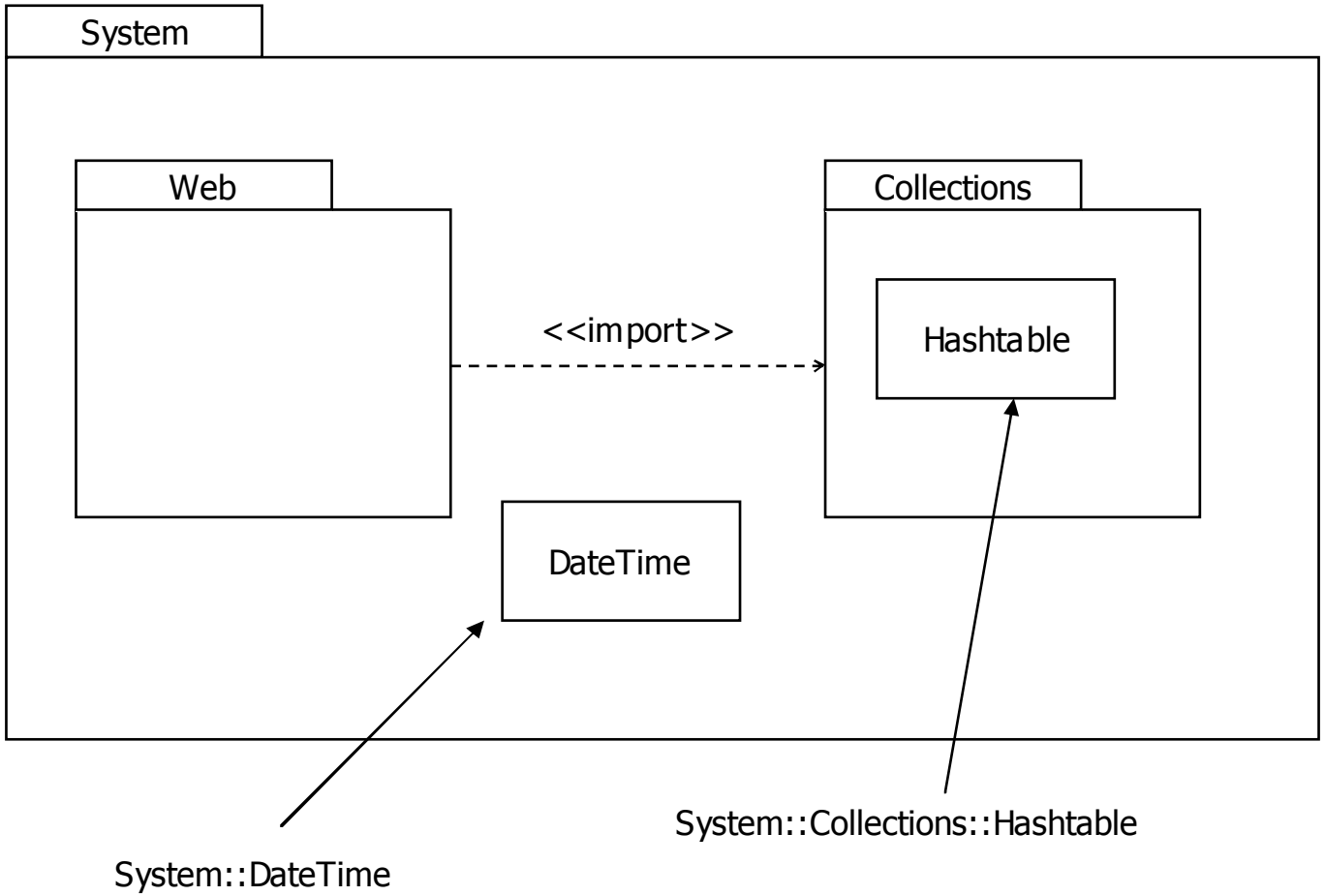
Packages & Path Names



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Model-View-Controller & Robustness Analysis

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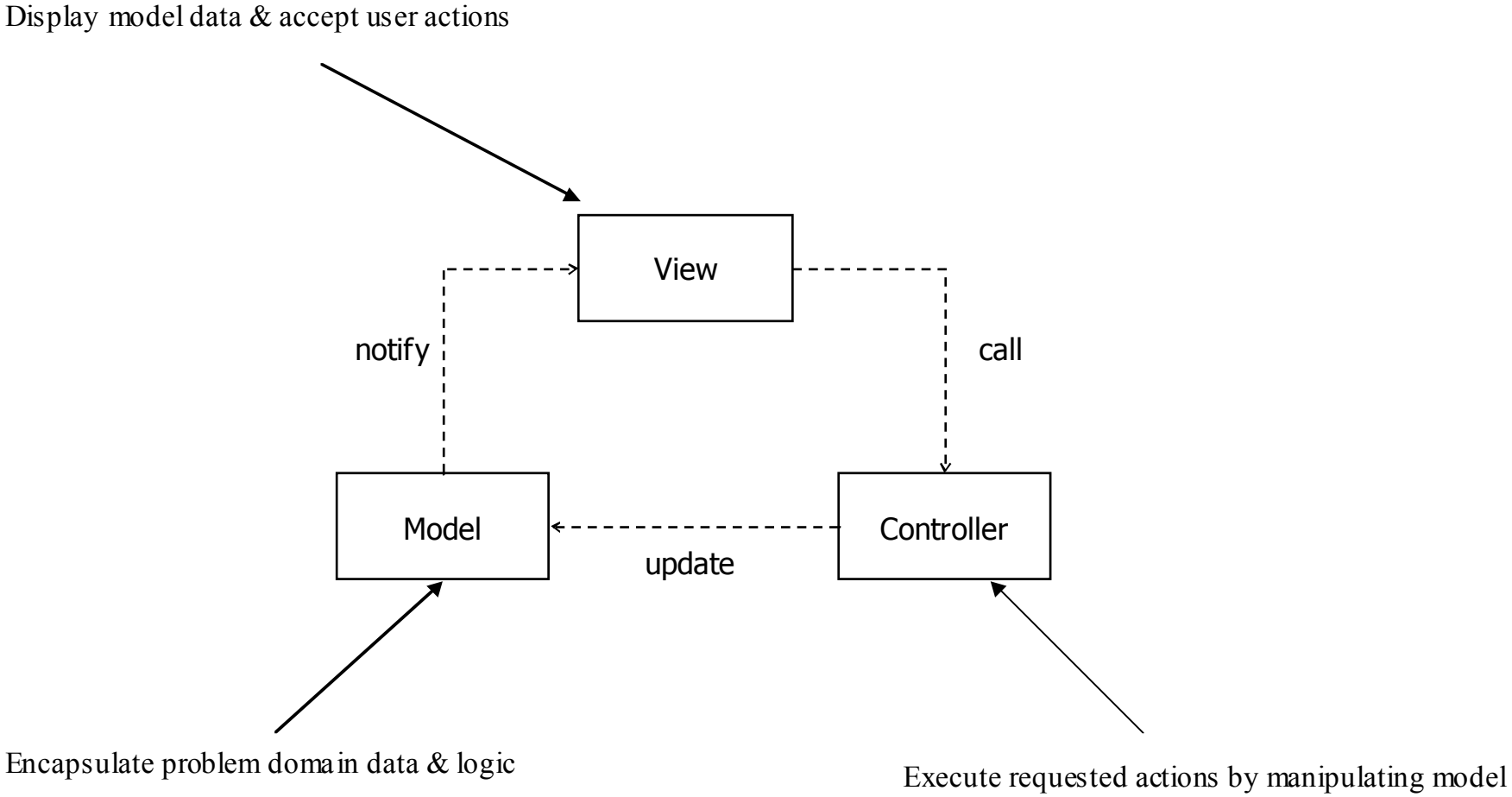
Model-View-Controller



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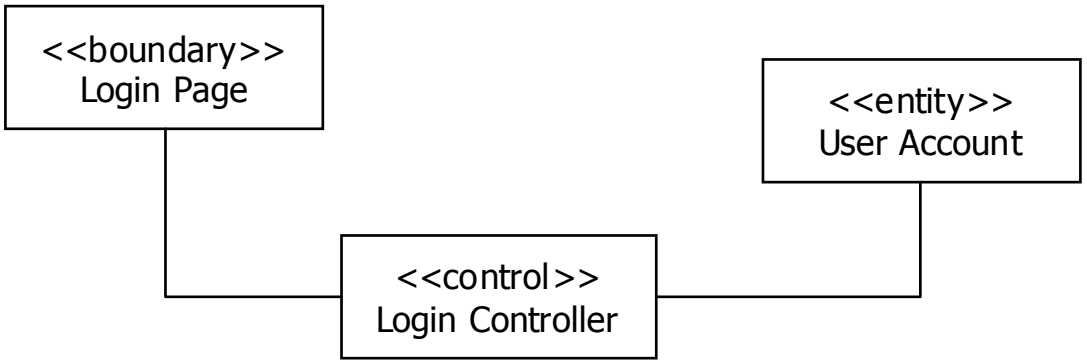
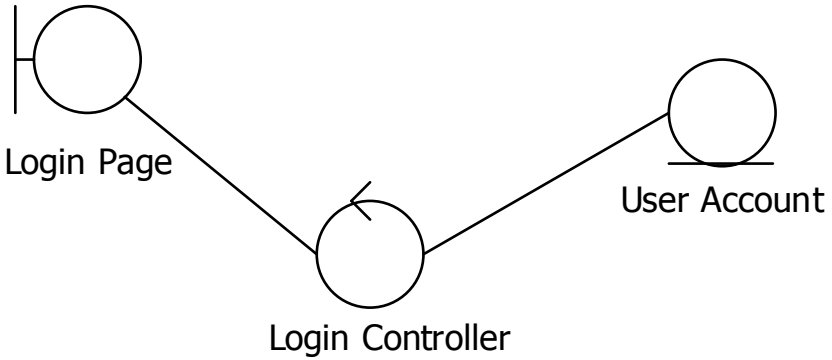
UML Stereotypes & Robustness Analysis





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