

Class Diagram

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Overview

A class diagram is a model of the classes showing the static relationships between them.

Visibility Prefixes

1. Prefix `+` indicates that an attribute or operation is **public**.
2. Prefix `-` denotes that the attribute or operation is **private**.
3. Prefix `#` denotes that the attribute or operation is **protected**.

Bank Account
- accountBalance
+ deposit ()
+ withdraw ()

Figure 1: Class Diagram Example

Aggregation

Aggregation is the UML term for the part-whole relationship. i.g. A car consists of a chassis, an engine, wheels, and seats. The open diamonds denote aggregation and is placed at the “whole” end. The numbers next to the ends of the lines denote multiplicity.

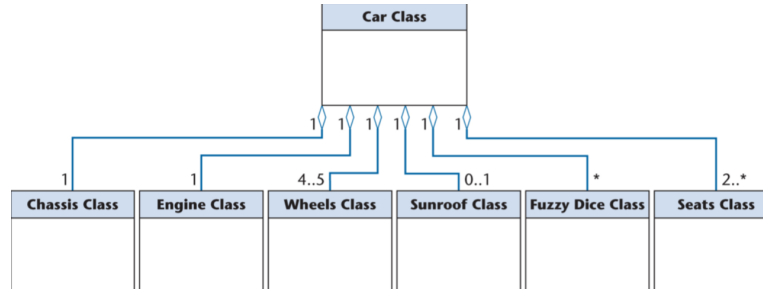


Figure 2: Aggregation Relation

Composition

Composition also models the part-whole relationship. However, it is a stronger form of aggregation. Every part may belong to only one whole, and if the whole is deleted, so are the parts. Composition is depicted by a solid diamond.

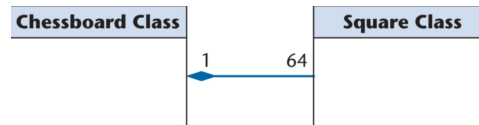


Figure 3: Composition Relation

Generalization

The UML notation for generalization is an open triangle and sometimes it is labeled with a discriminator.

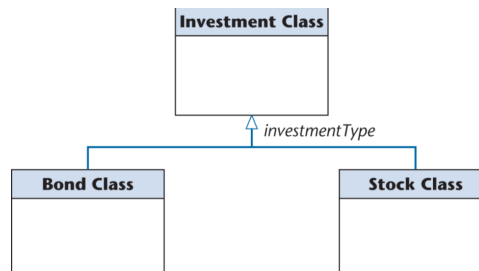


Figure 4: Generalization Relation

Association

The optional navigation triangle shows the direction of the association. And the association between the two classes may be modeled as a class.

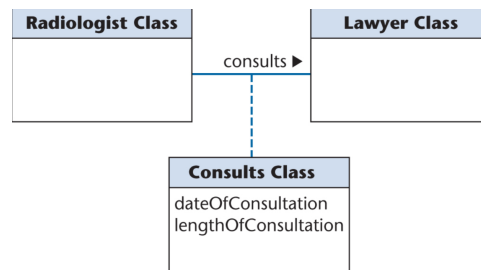


Figure 5: Association Relation