Class Diagram

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May 23, 2019

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**.

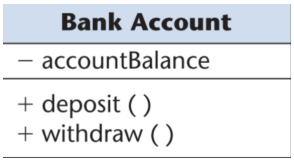

Figure 1: Class Diagram Example

UML Notation for These Three Class Types

Figure 2: Class Type

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.

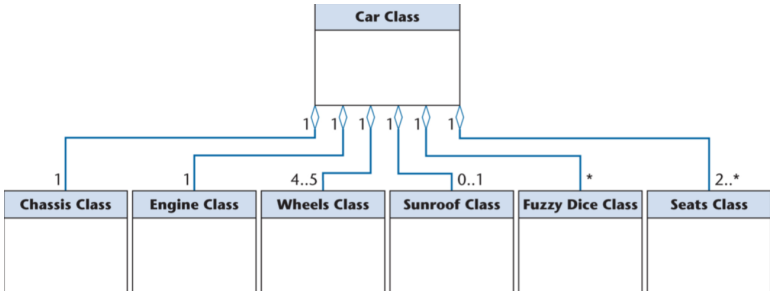

Figure 3: Aggregation Relation

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.

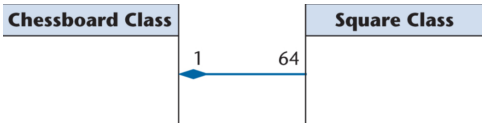

Figure 4: Composition Relation

Generalization

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

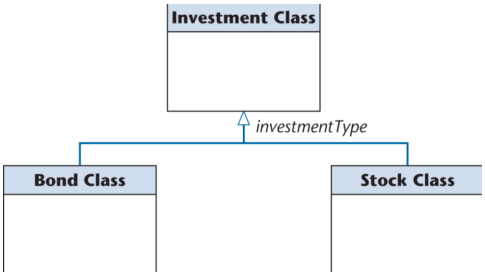

Figure 5: Generalization Relation

Association

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

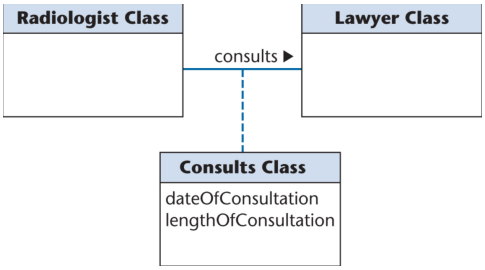

Figure 6: Association Relation