Pemograman Berorientasi Objek

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UML 2.5 Diagrams Overview

Metode dalam pemodelan secara visual yang digunakan sebagai sarana perancangan sistem berorientasi objek.

Bahasa standar visualisasi, perancangan, dan pendokumentasian sistem, atau dikenal juga sebagai bahasa standar penulisan *blueprint* sebuah *software.*

https://www.uml-diagrams.org/uml-25-diagrams.html

01

UML

Class Diagram

UML – Behavior Diagram

CLASS DIAGRAM

Class diagram is UML structure diagram which shows structure of the designed system at the level of classes and interfaces, shows their features, constraints and relationships - associations, generalizations, dependencies, etc.

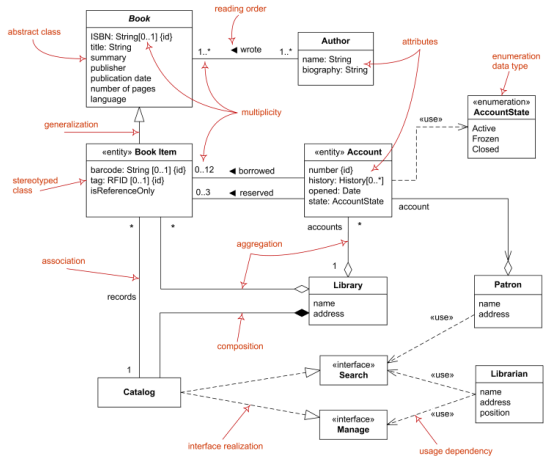
Shows structure of the designed system, subsystem or component as related classes and interfaces, with their features, constraints and relationships - associations, generalizations, dependencies, etc.

https://www.uml-diagrams.org/class-diagrams-overview.html#domain-model-diagram

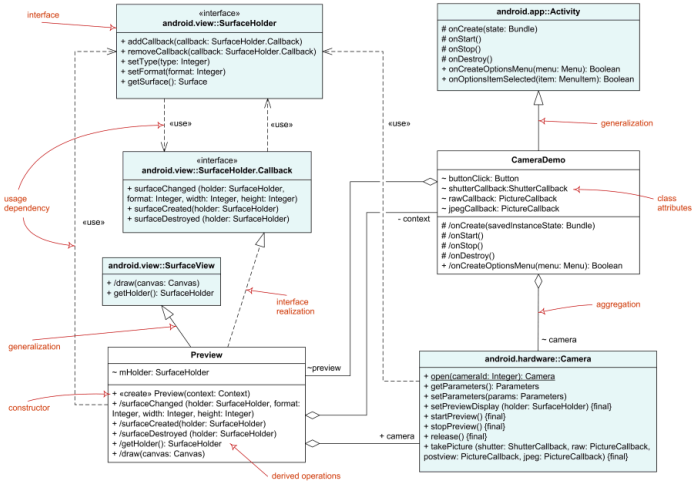
CLASS DIAGRAM

Some common types of class diagrams are:

1. Domain model diagram



2. Diagram of implementation clasess



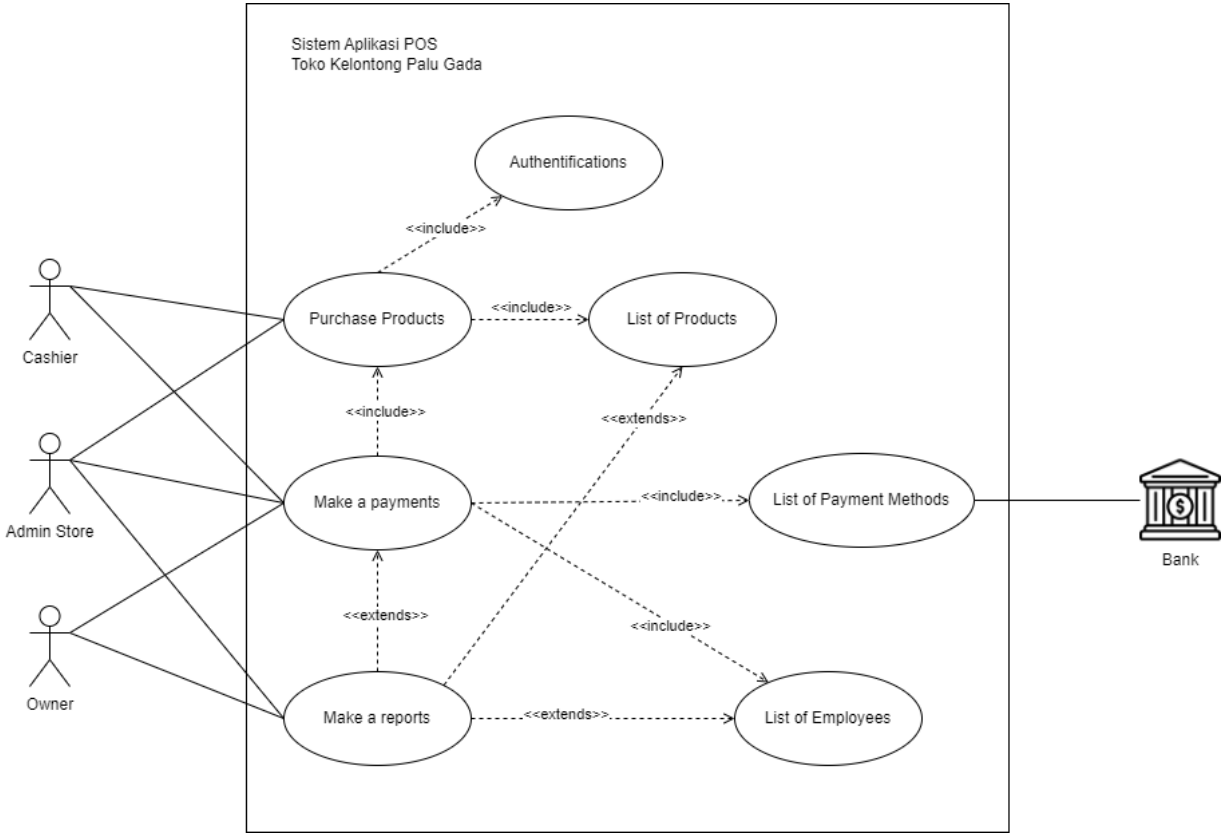
https://www.uml-diagrams.org/class-diagrams-overview.html#domain-model-diagram

CASE STUDY

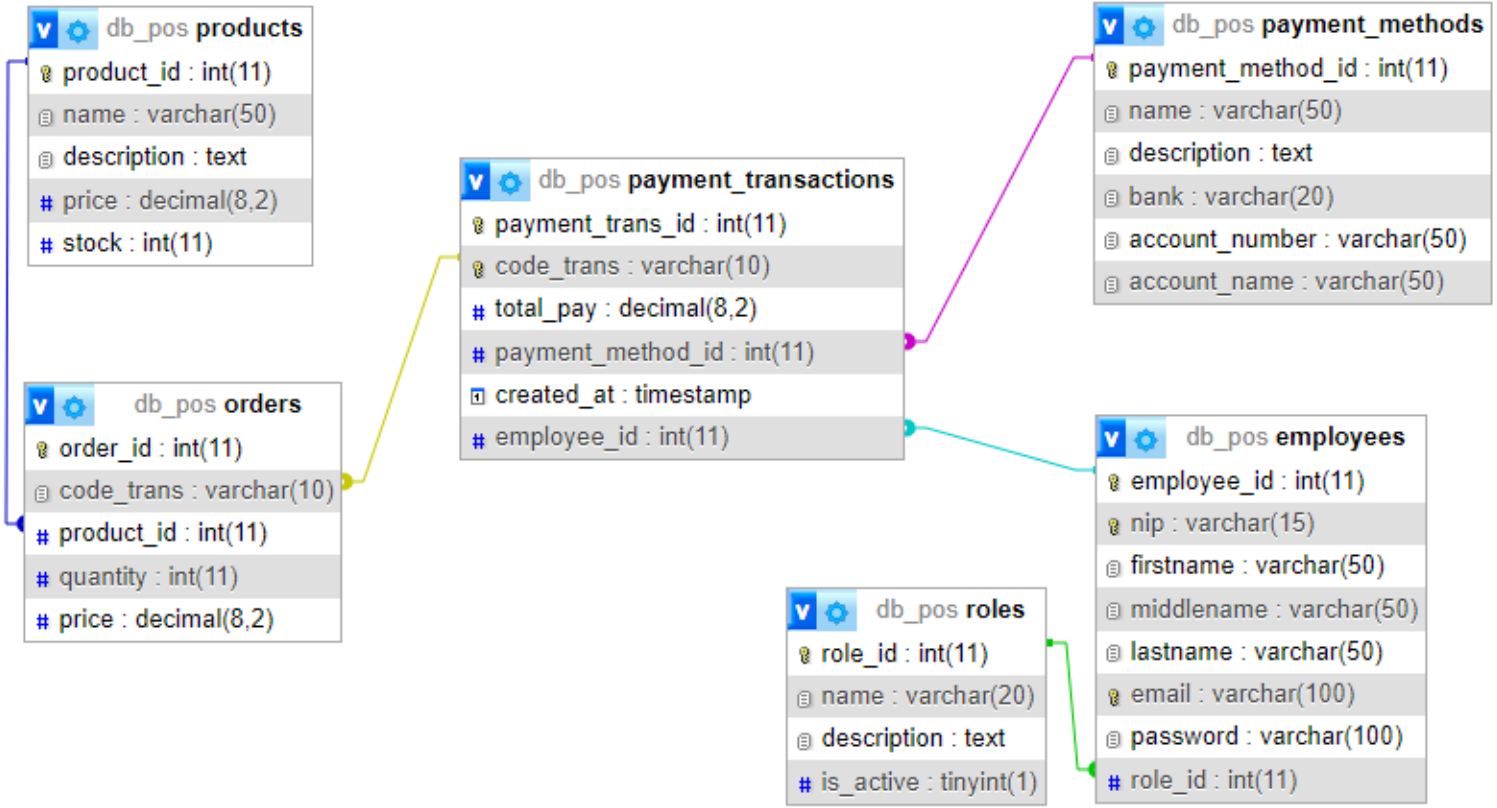
POS

TOKO Kelontong Palu Gada

Case Study

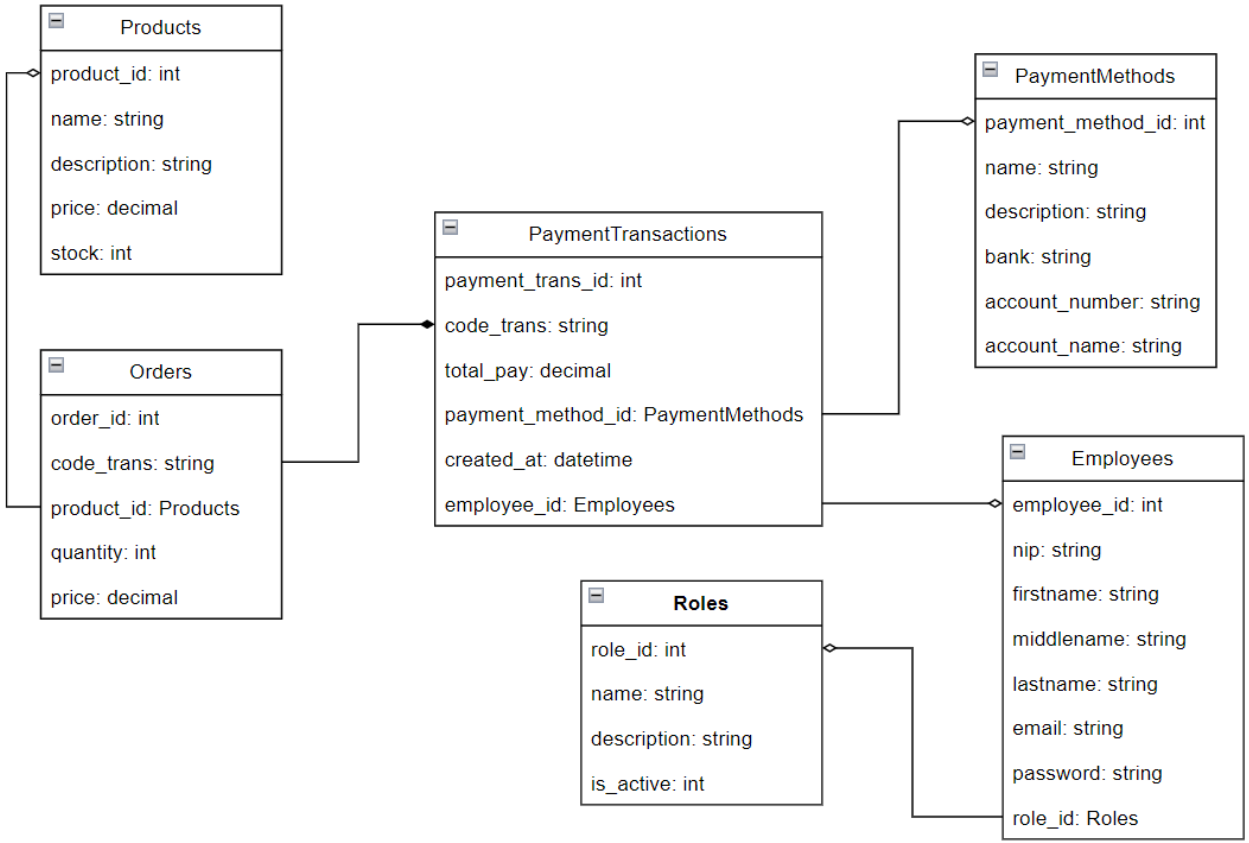

Sistem Aplikasi POS
Toko Kelontong Palu Gada
Authentifications
<<include>>
Purchase Products
<<include>>
List of Products
<<include>>
<<extends>>
Make a payments
<<include>>
List of Payment Methods
Bank
<<extends>>
<<include>>
Make a reports
<<extends>>
List of Employees
Cashier
Admin Store
Owner

RDBMS – App POS



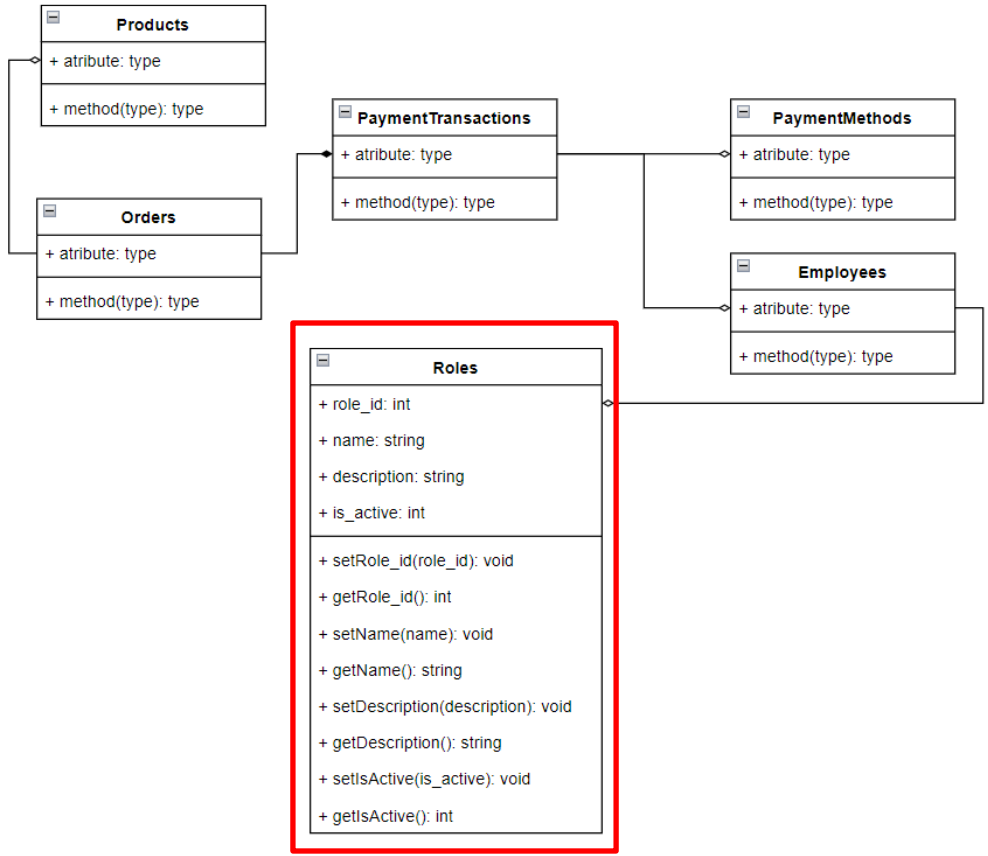
CLASS DIAGRAM

Sample Cases of
Domain model diagram:



CLASS DIAGRAM

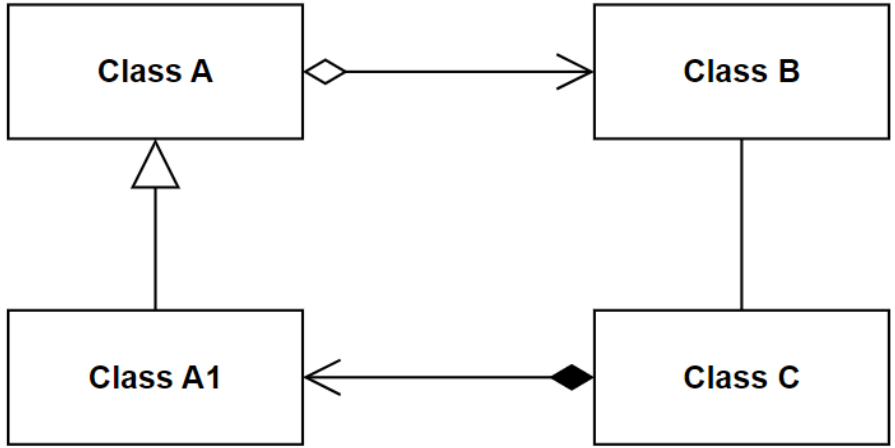
Sample Cases of **Diagram of implementation clasess**:



CLASS DIAGRAM

Elements of class diagram:

1. Class
2. Association
3. Aggregation
4. Composition
5. Generalization



https://www.uml-diagrams.org/class.html

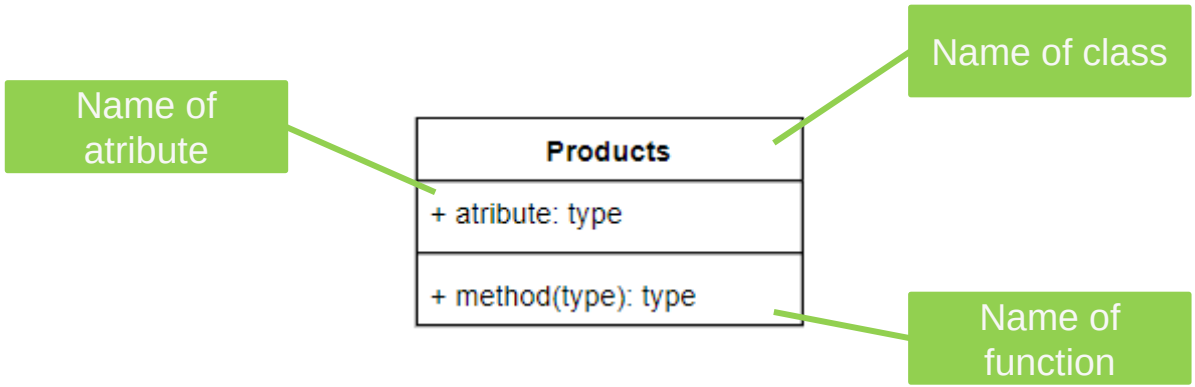
CLASS DIAGRAM

List of the elements

CLASS

A class is a classifier which describes a set of objects that share the same features, constraints, and semantics (meaning).

A class is shown as a solid-outline rectangle containing the class name, and optionally with compartments separated by horizontal lines containing features or other members of the classifier.



https://www.uml-diagrams.org/class.html

CLASS DIAGRAM

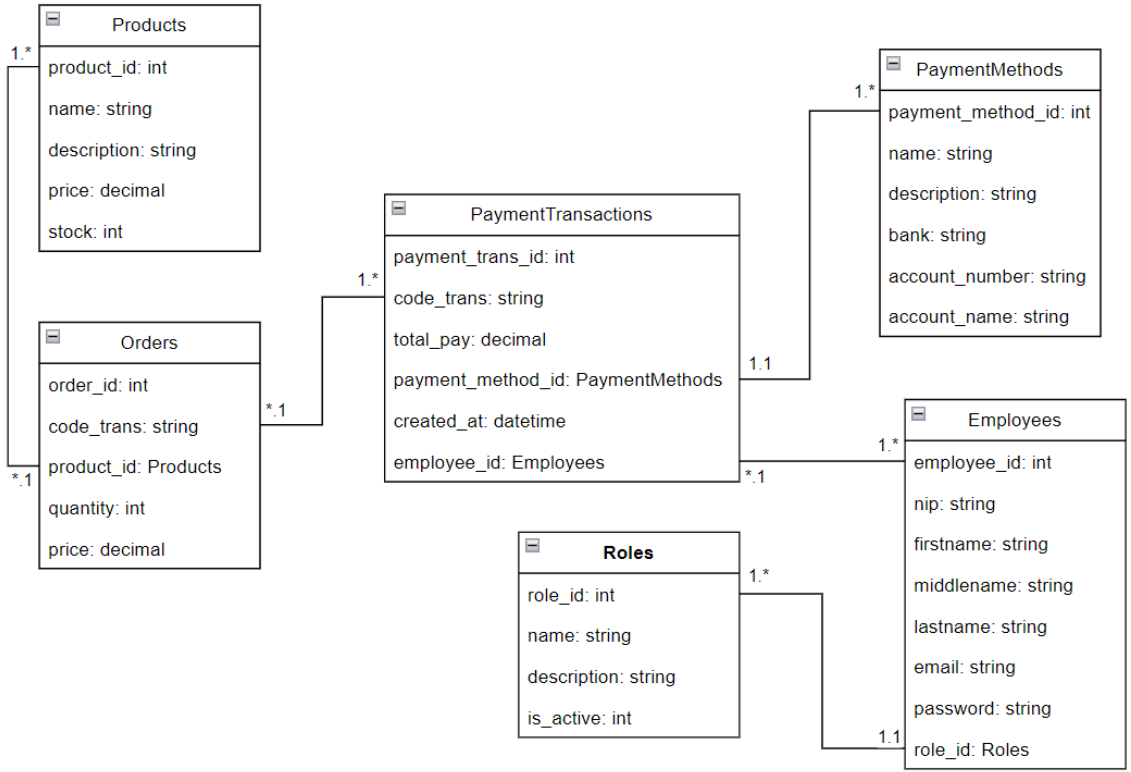
List of the elements

ASSOCIATION

Association is a relationship between classifiers which is used to show that instances of classifiers could be either linked to each other or combined logically or physically into some aggregation.

Symbol:

parent child



https://www.uml-diagrams.org/association.html?context=class-diagrams

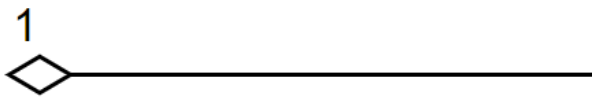
CLASS DIAGRAM

List of the elements

AGGREGATION

Shared aggregation (aggregation) is a binary association between a property and one or more composite objects which group together a set of instances. It is a "weak" form of aggregation when part instance is independent of the composite.

Symbol:



https://www.uml-diagrams.org/aggregation.html?context=class-diagrams

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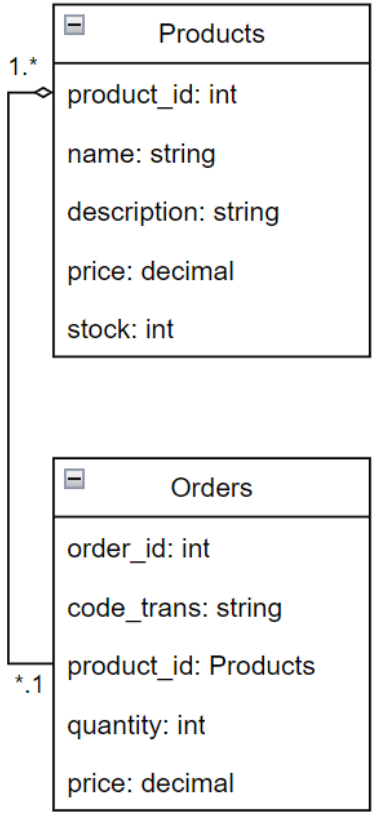

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CLASS DIAGRAM

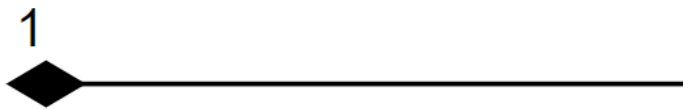
List of the elements

COMPOSITION

Composite aggregation (composition) is a "strong" form of aggregation with the following characteristics:

- it is binary association,
- it is a whole/part relationship,
- a part could be included in at most one composite (whole) at a time, and
- if a composite (whole) is deleted, all of its composite parts are "normally" deleted with it.

Symbol:



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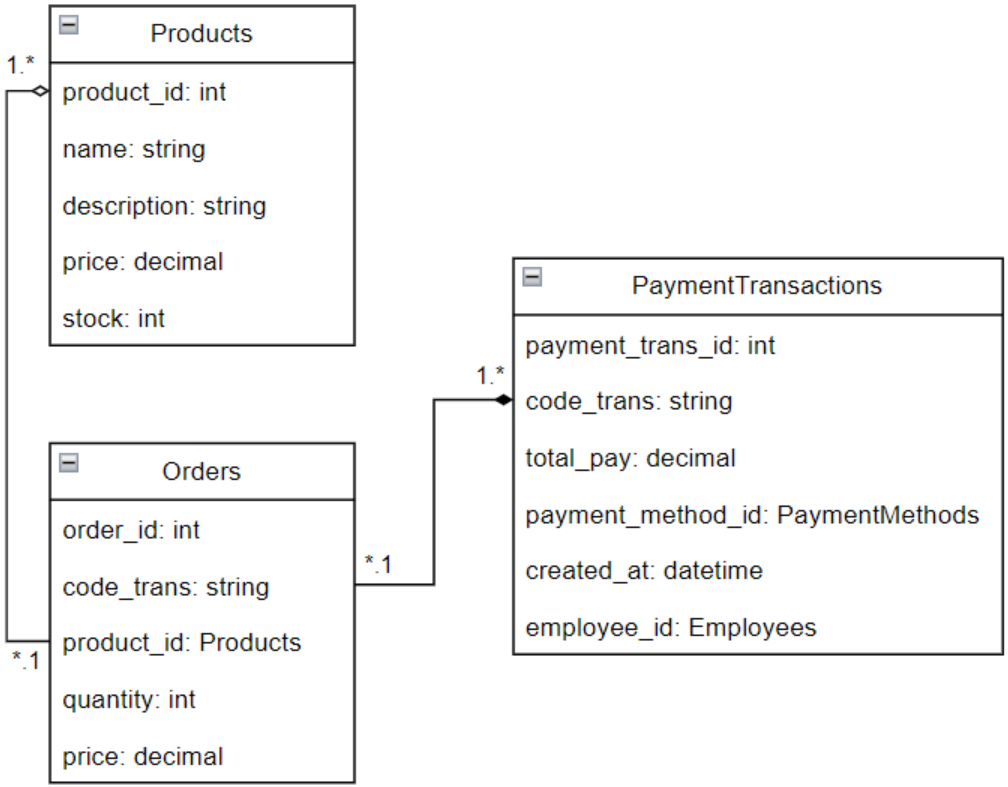

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CLASS DIAGRAM

List of the elements

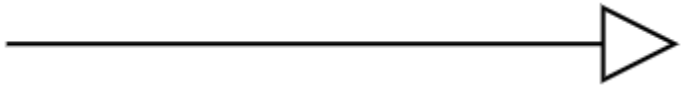
GENERALIZATIONS

A generalization is a binary taxonomic (i.e. related to classification) directed relationship between a more general classifier (superclass) and a more specific classifier (subclass).

#INHERITANCE

In OOAD inheritance is usually defined as a mechanism by which more specific classes (called subclasses or derived classes) incorporate structure and behavior of more general classes (called superclasses or base classes).

Symbol:



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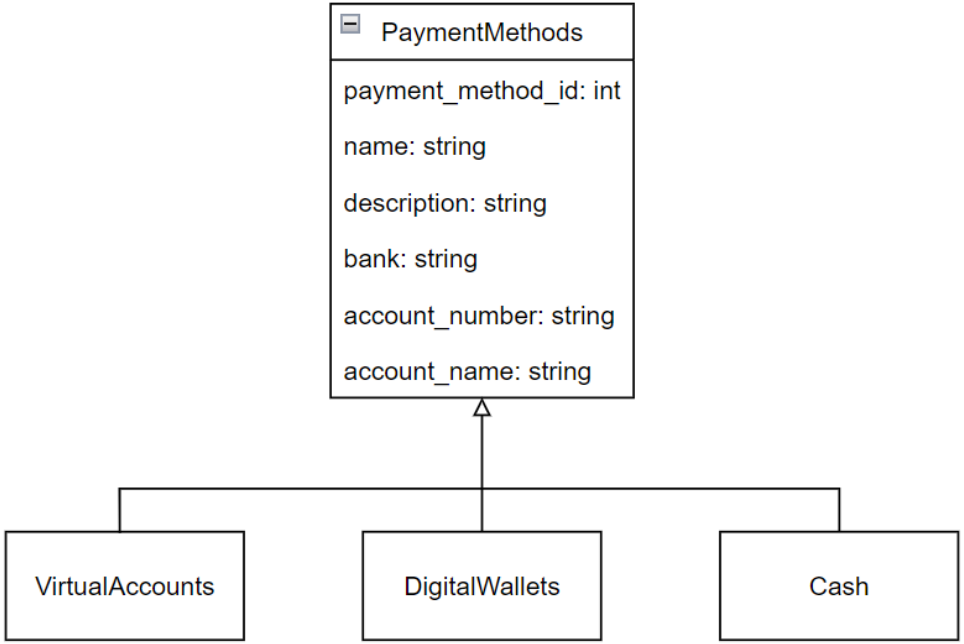

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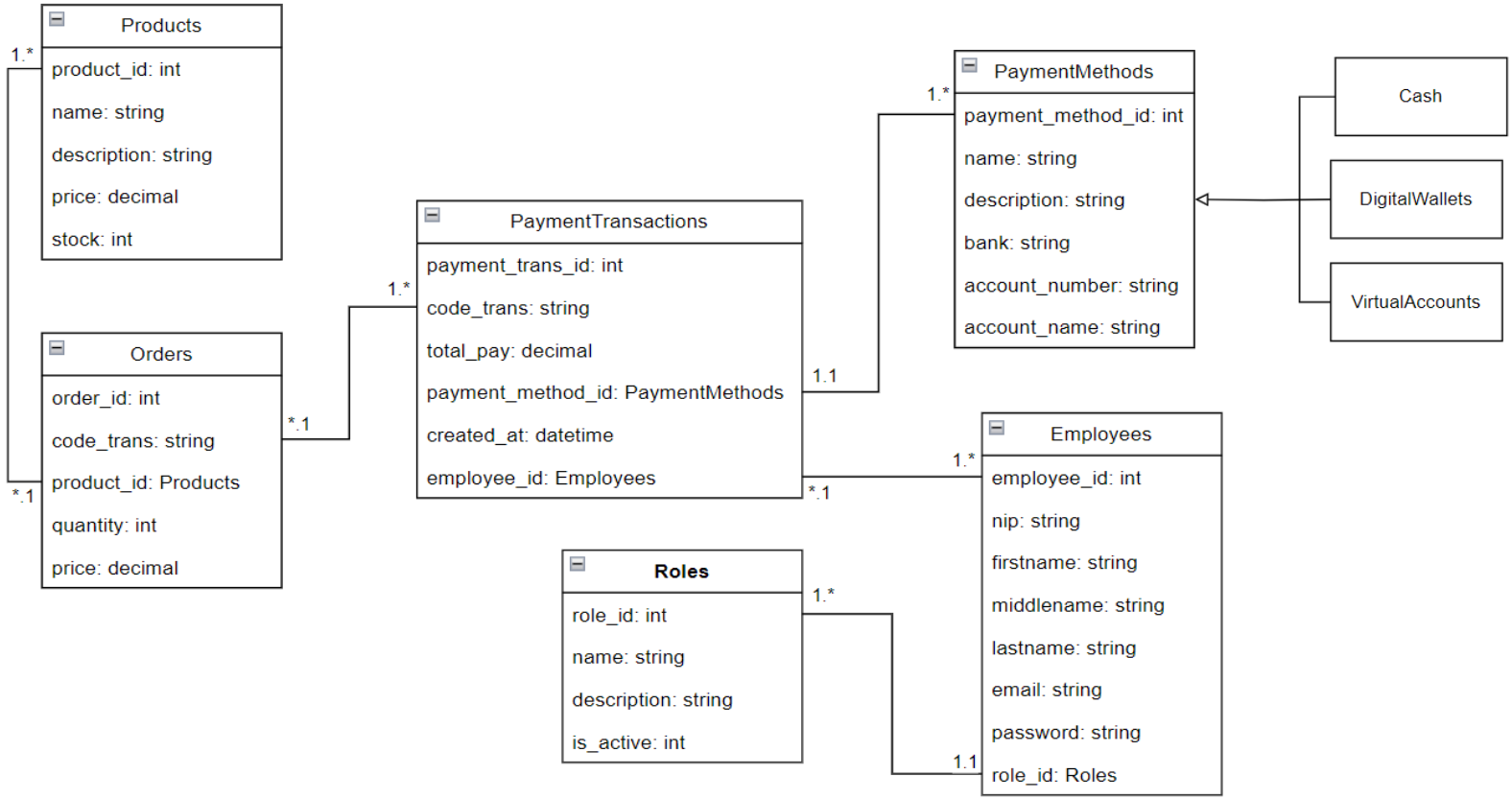
CLASS DIAGRAM

Where is Aggregation and Composition ?



THANK YOU