Inheritance

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Inheritance and set theory

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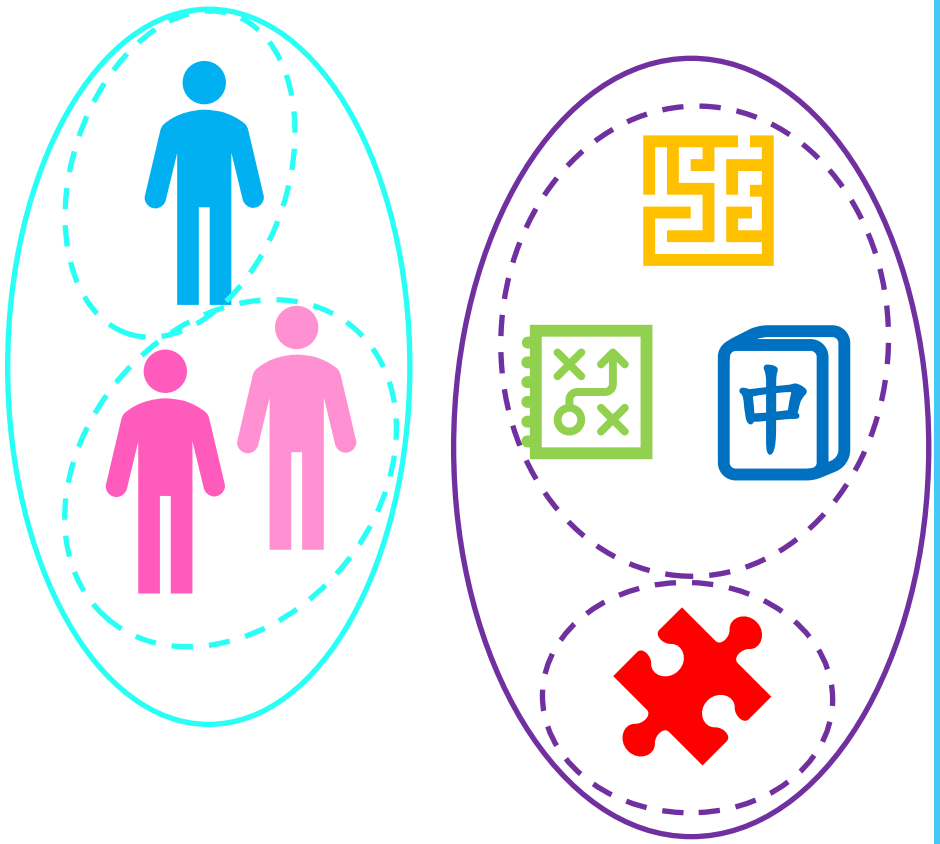
DISCOVERING...

ENTITY SUBSETS

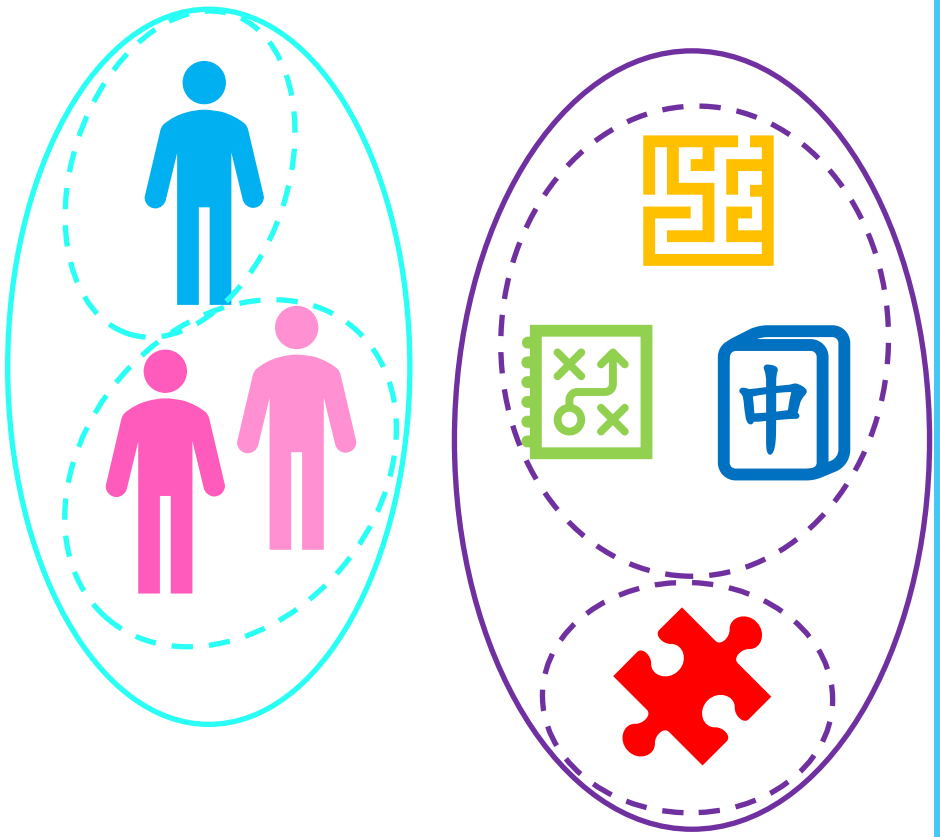


Rob is **male**, An and Astrid are **female**. Mastermind, Stratego and Monopoly are **family games**. Cute Cats Puzzle is... a **puzzle**.

An **Entity subsets** contains entities with specific properties that entities of another entity subset don't have.

DISTINGUISH...

ENTITY SUBSETS

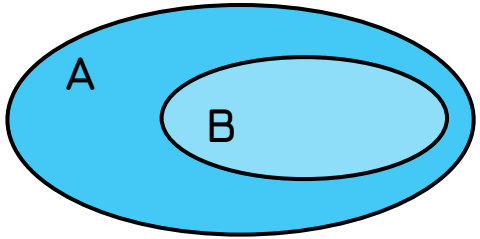


We don't want to distinguish **male** and **female** in the UoD, so defining a subtype is not necessary. For **family games** we have the expected game duration. For **puzzles** we want the number of pieces.

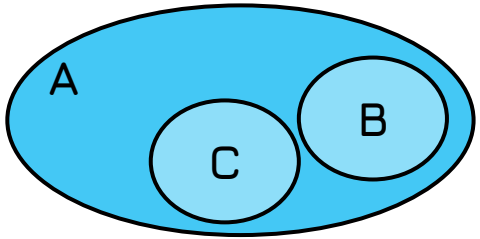
Family games and **puzzles** have shared properties so they belong to the same **entity type** but also have specific properties in order to their **subtype**.

EXAMPLES

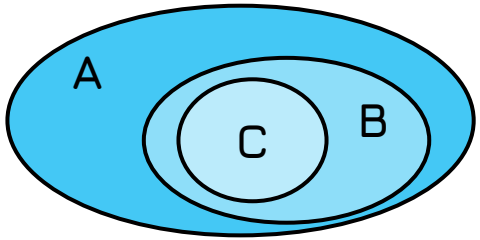
INHERITANCE



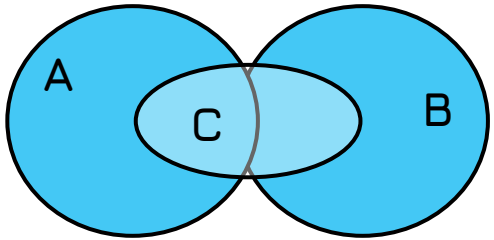
Single inheritance



Hierarchical inheritance



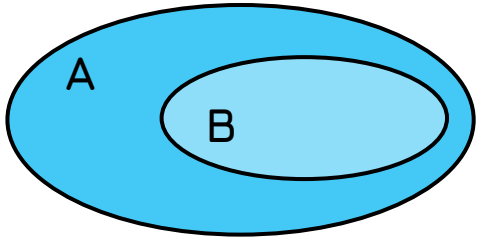
Multilevel inheritance



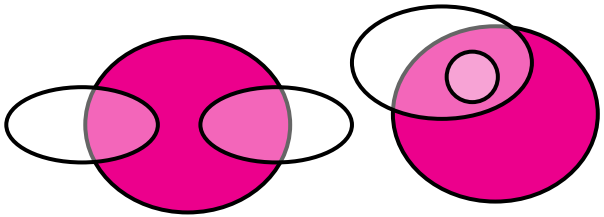
Multiple inheritance

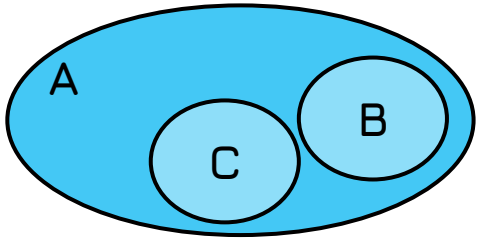
EXAMPLES

INHERITANCE

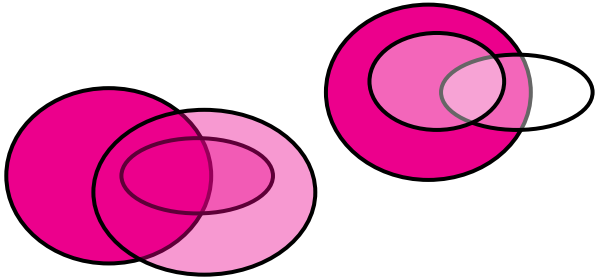


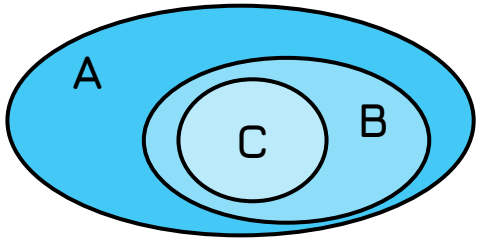
Single inheritance



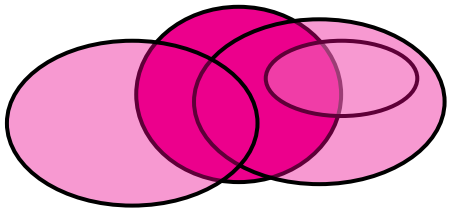


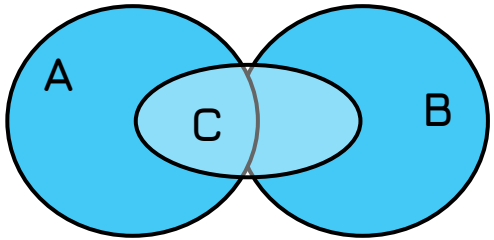
Hierarchical inheritance





Multilevel inheritance





Multiple inheritance

Inheritance notation ERD

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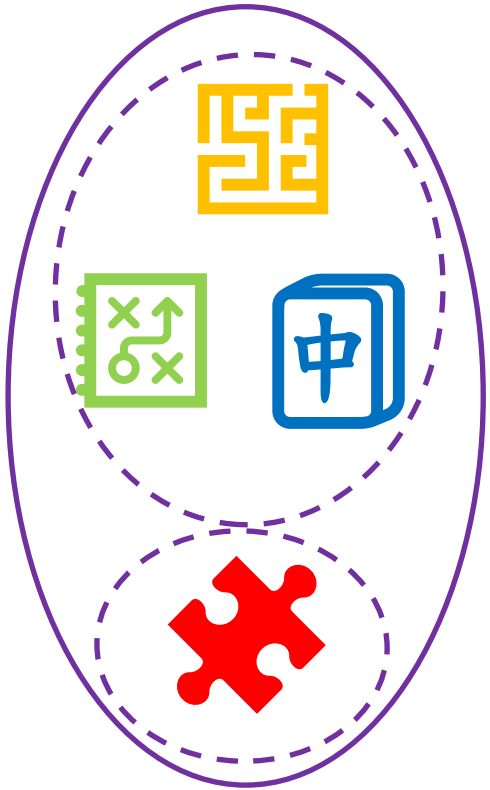
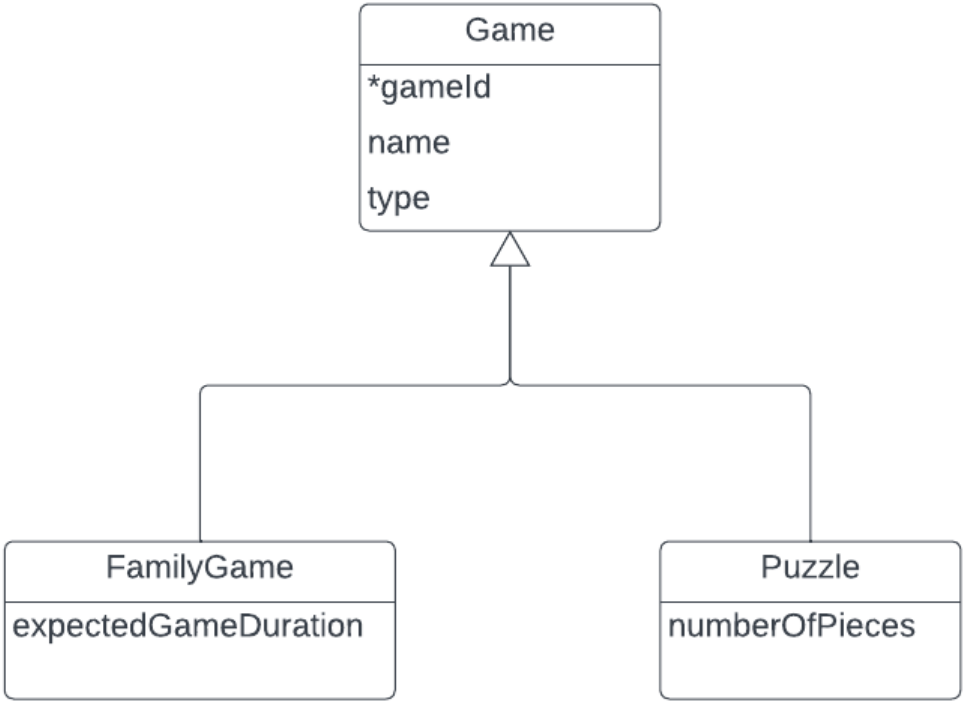
Inheritance





Inheritance Constraints

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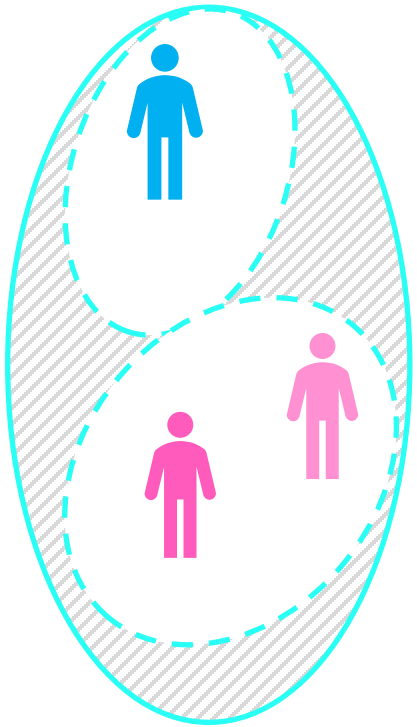


DISTINGUISH...

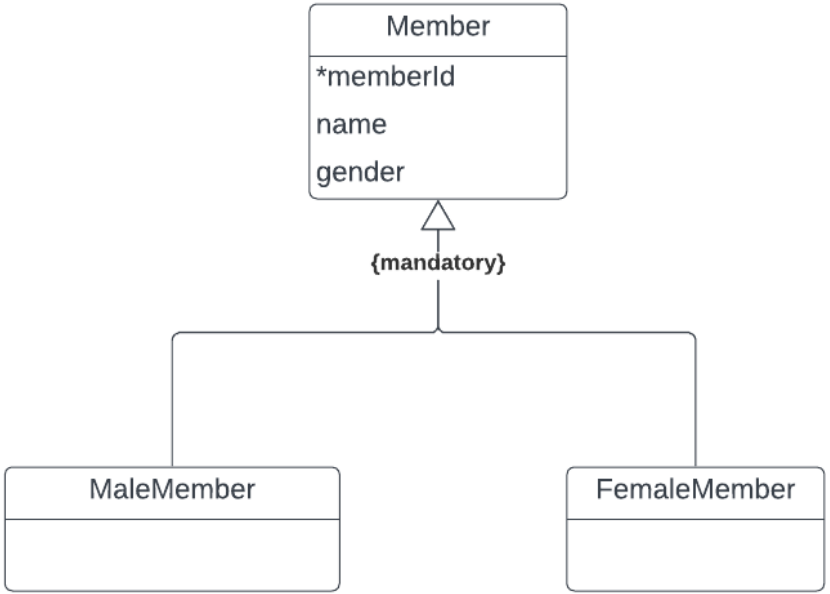
CONSTRAINTS

In our UoD a member is **male** or **female** and nothing else (assumption).

Member has two subsets and each member **should** belong to one of the two subsets.

DISTINGUISH...

CONSTRAINTS

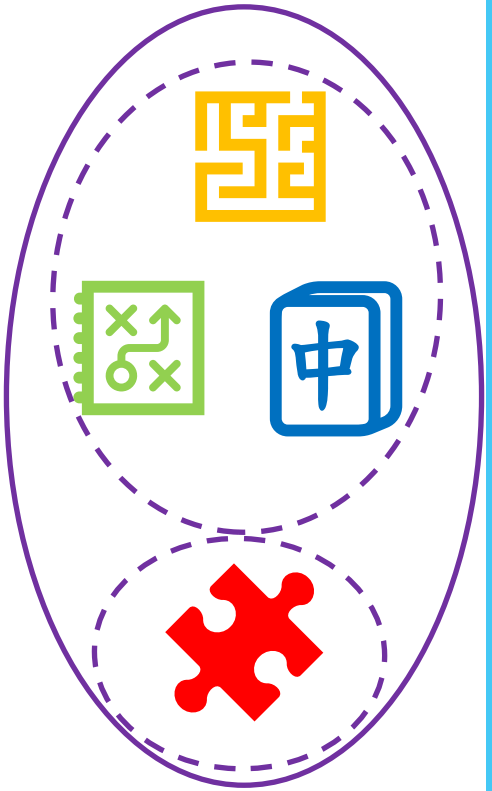


In our UoD a member is **male** or **female** and nothing else (assumption).

We use **mandatory** to express that a member **should** be one of the subtypes.

DISTINGUISH...

CONSTRAINTS

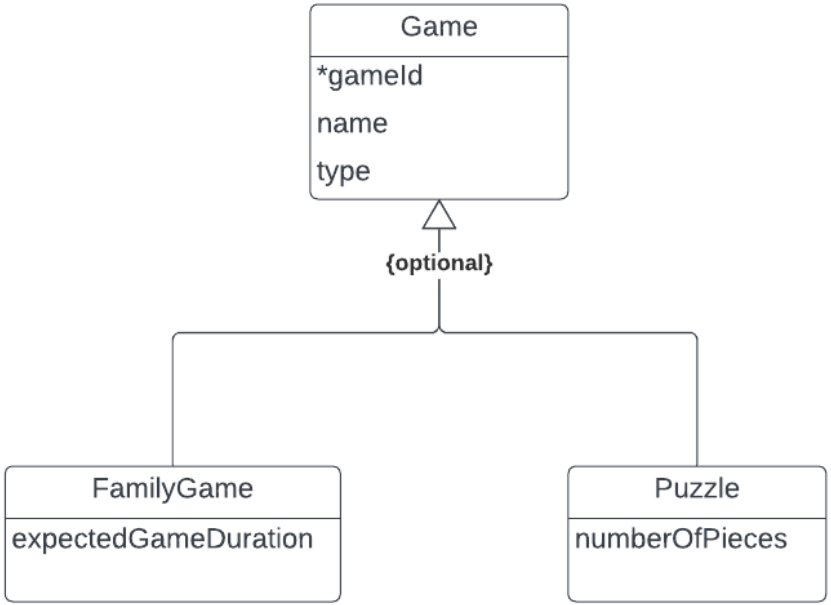


In our UoD a game is a **family game** or a **puzzle** and other possibilities do also exist.

Game has two subsets and a game **can** belong to one of the subsets.

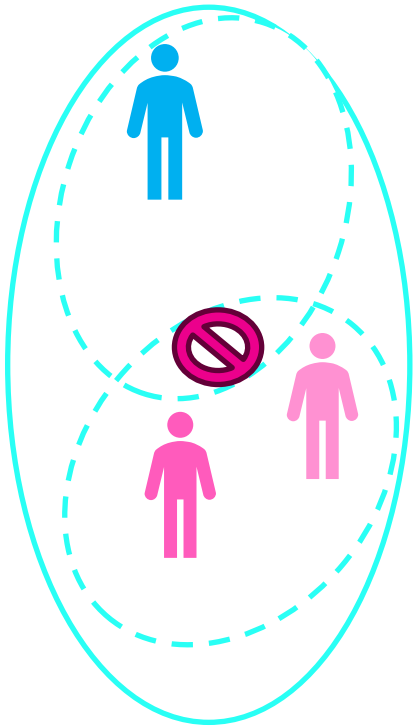
DISTINGUISH...

CONSTRAINTS



In our UoD a game is a **family game** or a **puzzle** and other possibilities do also exist.

We use **optional** to express that a game **can** be one of the subtypes



DISTINGUISH...

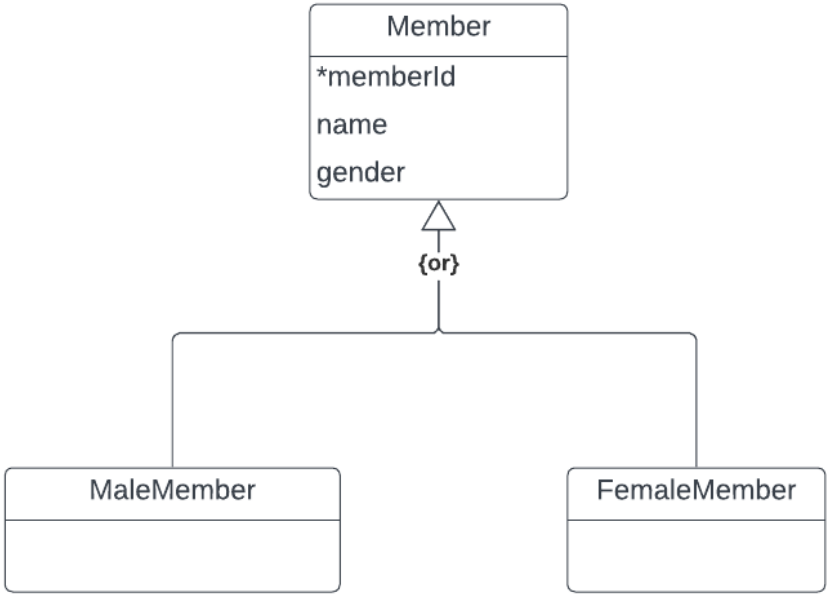
CONSTRAINTS

In our UoD a member is **male** or **female** but can't be both.

Member has two subsets and each member belongs to **maximum one** of the two subsets.

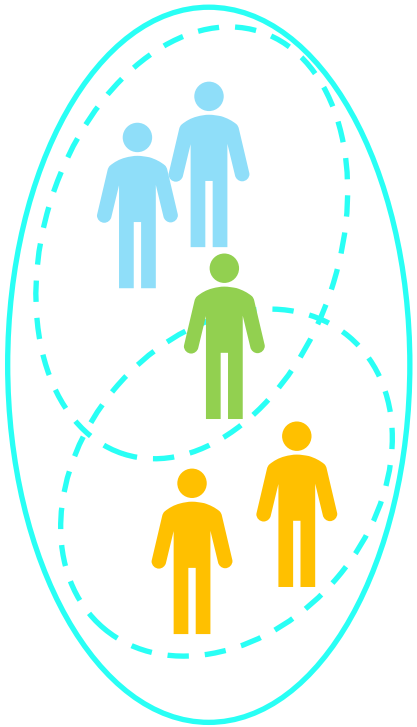
DISTINGUISH...

CONSTRAINTS



In our UoD a member is **male** or **female** but can't be both.

We use **or** to express that a member can be **maximum one** of the subtypes.



DISTINGUISH...

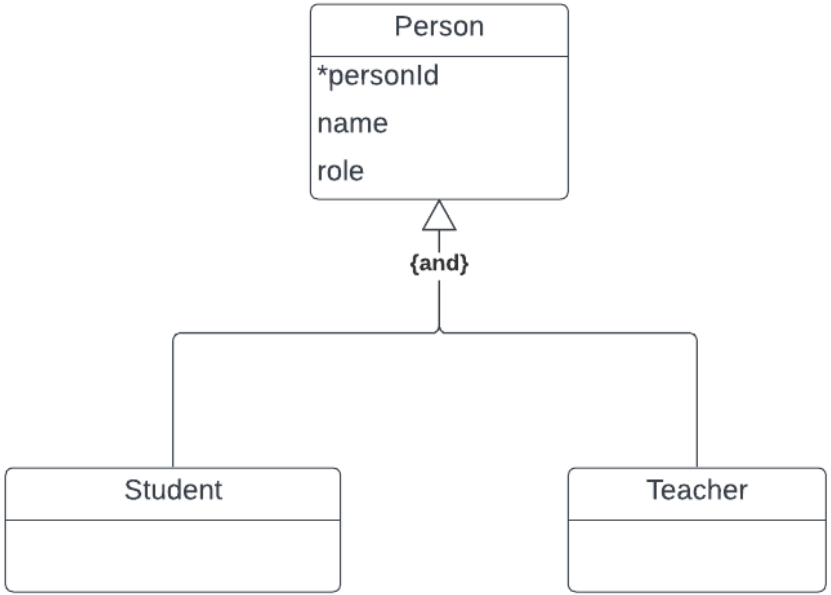
CONSTRAINTS

In our UoD a person is **student** or **teacher** and can be both.

Person has two subsets and all persons belong to **one or more** of the two subsets.

DISTINGUISH...

CONSTRAINTS



In our UoD a person is **student** or **teacher** but can be both. A teacher can subscribe no matter what course.

We use **and** to express that a person belongs to **one or more** of the subtypes.

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