# ERD relationship properties

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# Participation

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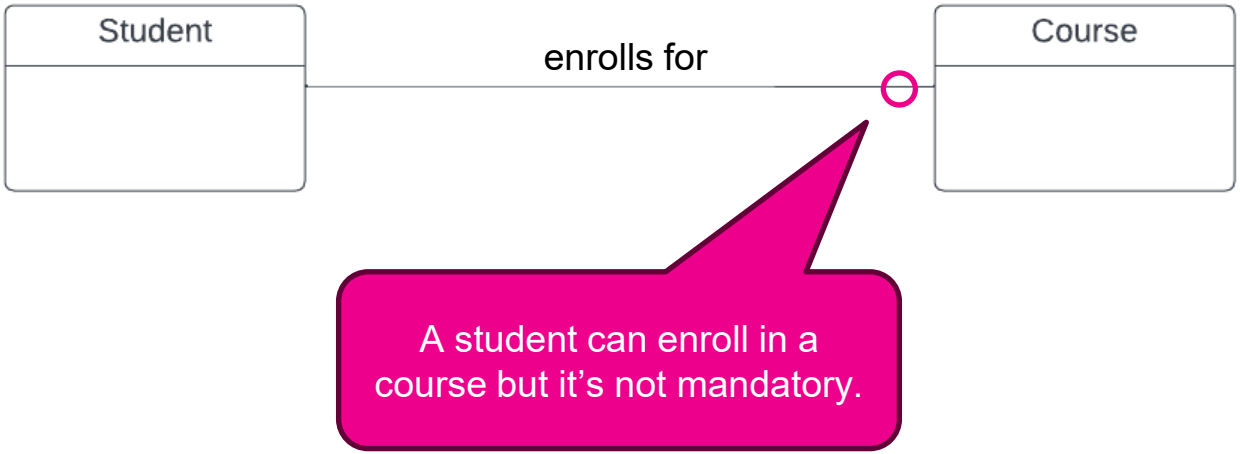
WHAT IS THE...

# PARTICIPATION of a relationship

The **participation constraint of a relationship** specifies the number of instances of an entity type that can participate in a relationship.

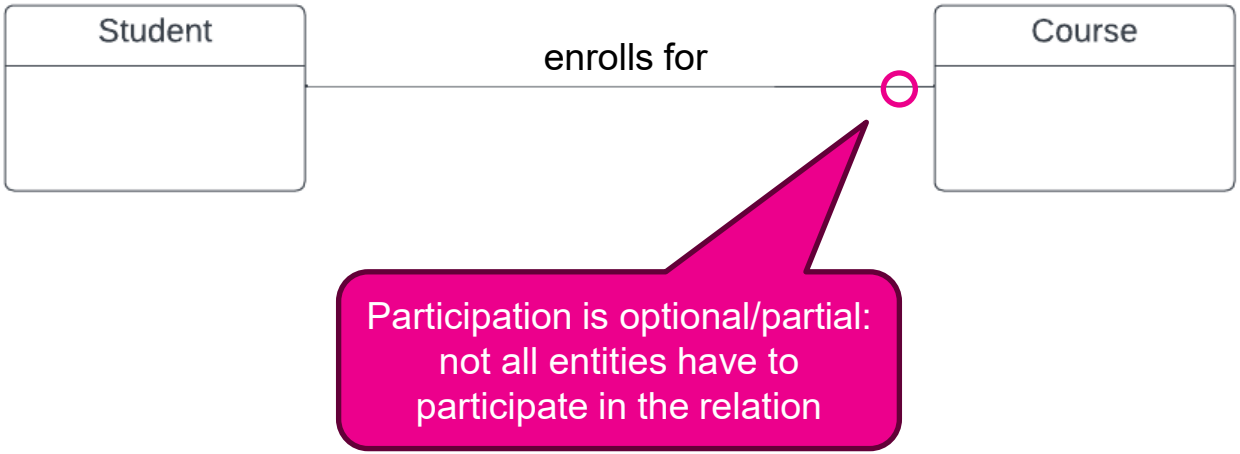
PARTICIPATION

# ERD RELATIONSHIP



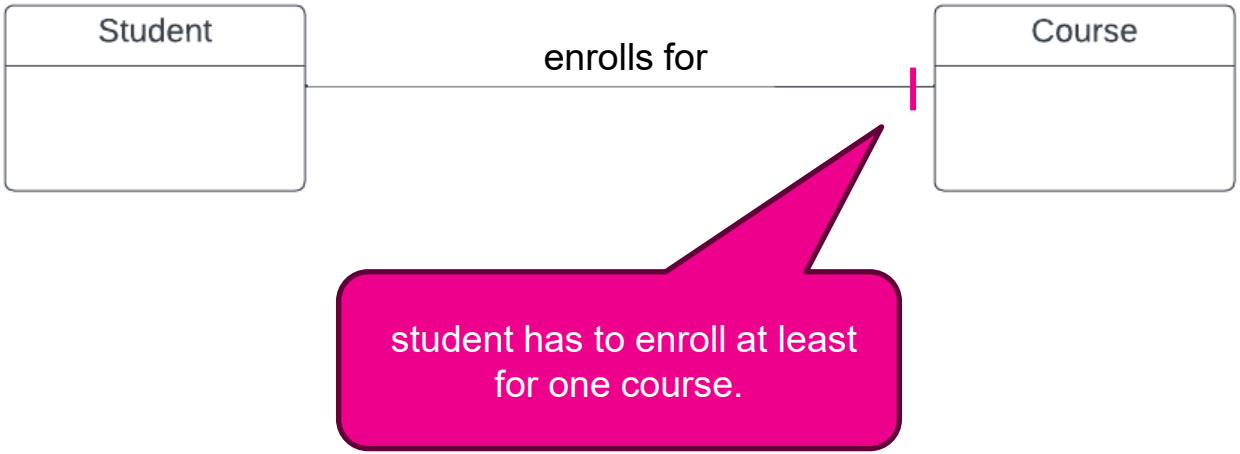
PARTICIPATION

# ERD RELATIONSHIP



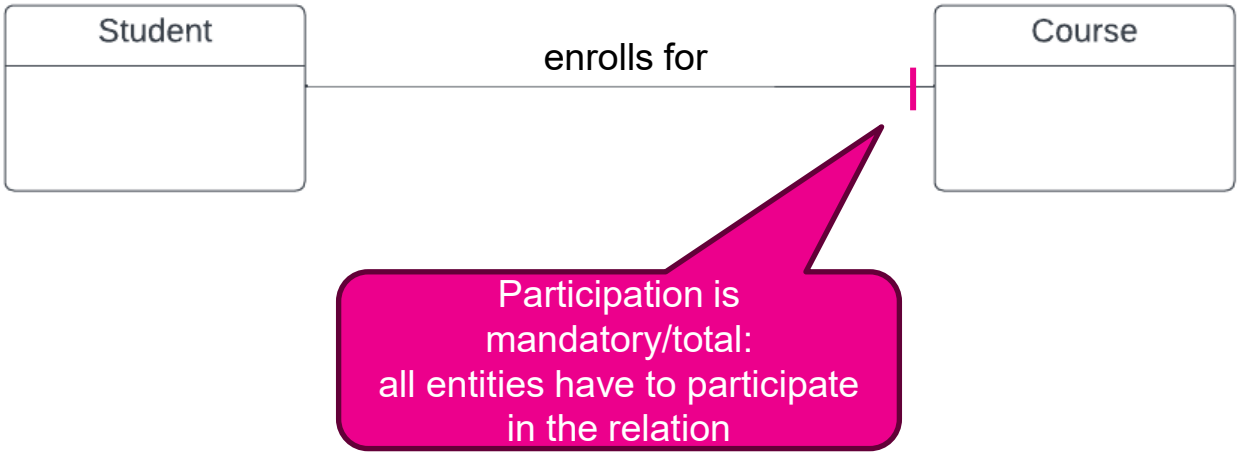
PARTICIPATION

# ERD RELATIONSHIP



PARTICIPATION

# ERD RELATIONSHIP



# PARTICIPATION of a relationship

The **participation constraint of a relationship** specifies the number of instances of an entity type that can participate in a relationship

- **partial** participation: an entity **may** take part in the relationship
- **total** participation: every entity **must** take part in the relationship

# Cardinality

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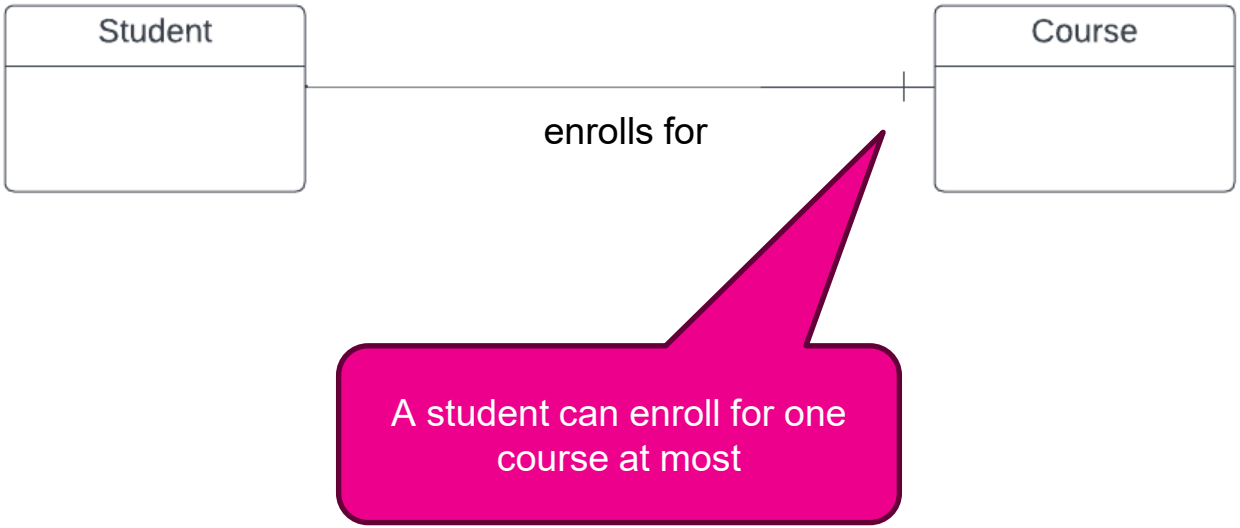
WHAT IS THE...

# CARDINALITY of a relationship

The **cardinality of a relationship** is a constraint on a relationship indicating how many instances of an entity type can relate to one instance of another entity type.

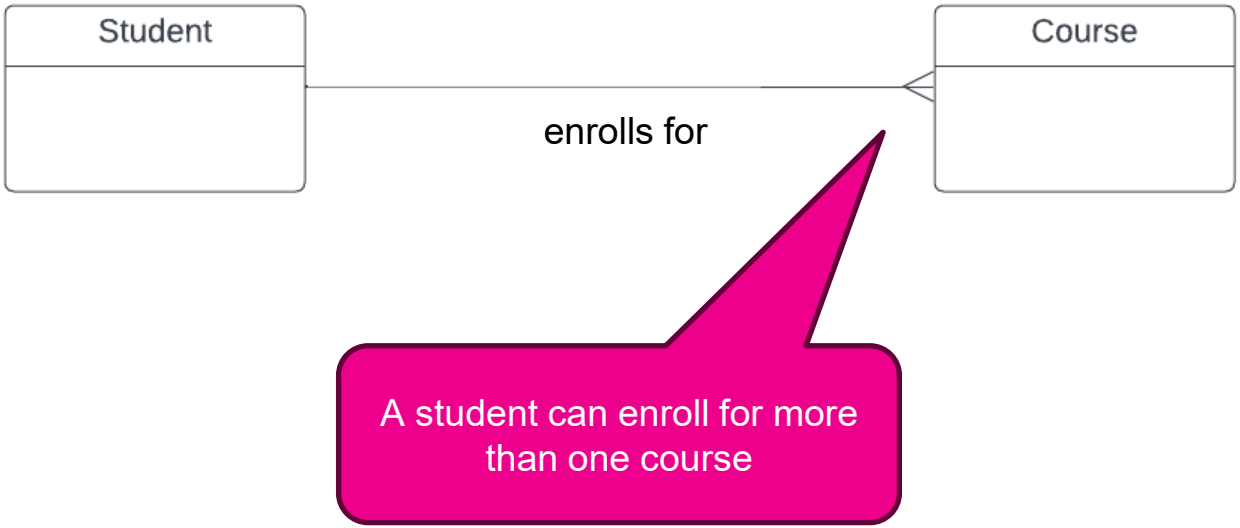
CARDINALITY

# ERD RELATIONSHIP



CARDINALITY

# ERD RELATIONSHIP



# CARDINALITY of a relationship

The **cardinality of a relationship** is a constraint on a relationship indicating how many instances of an entity type can relate to one instance of another entity type.

For relationships with two roles, this can be:

one to one

one to many / many to one

many to many

# Participation and Cardinality

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# PARTICIPATION and CARDINALITY

The **participation of a relationship** defines the **minimum** number of related entities on a relationship (0 or 1), the **cardinality of a relationship** defines the **maximum** number of related entities on a relationship (1 or more).

PARTICIPATION AND CARDINALITY

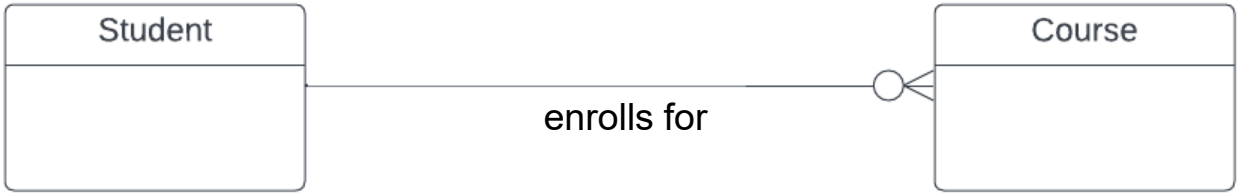
# ERD RELATIONSHIP

PARTICIPATION AND CARDINALITY

# ERD RELATIONSHIP

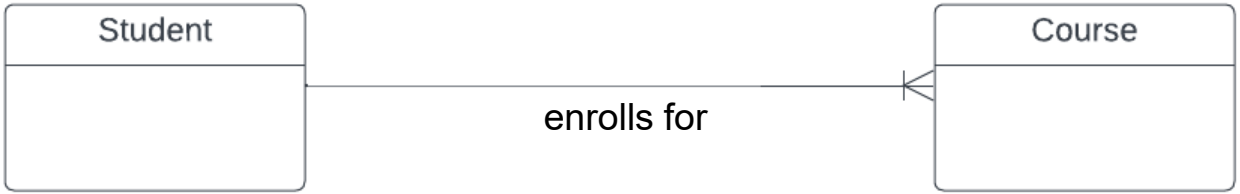
PARTICIPATION AND CARDINALITY

# ERD RELATIONSHIP



PARTICIPATION AND CARDINALITY

# ERD RELATIONSHIP



# Attributes of a relationship

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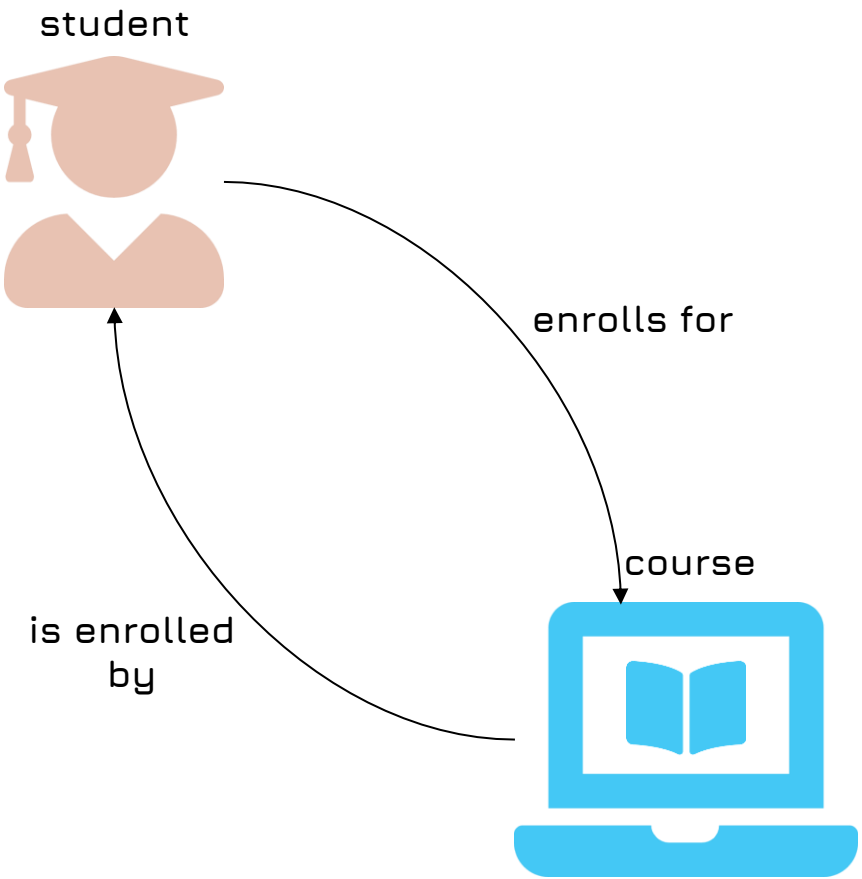



FINDING...

# Attributes

A student enrolls for/is enrolled by a course and gets a score.

Where do we have to put that attribute?

ERD

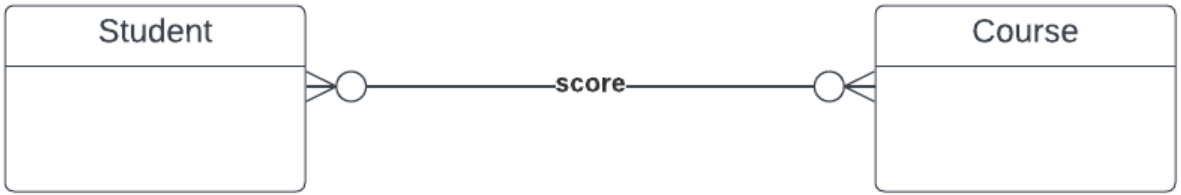
# ATTRIBUTE OF A RELATIONSHIP

ERD

# ATTRIBUTE OF A RELATIONSHIP

ERD

# ATTRIBUTE OF RELATIONSHIP

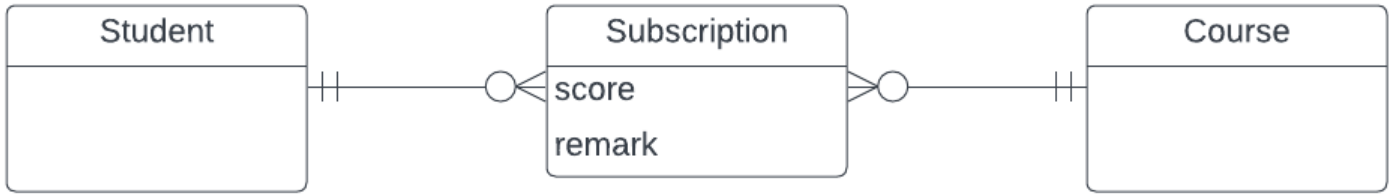


ERD

# ATTRIBUTE OF AN RELATIONSHIP

ERD

# UPGRADE RELATIONSHIP TO ENTITY TYPE



# ERD relationship properties

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