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Entity Relationship Diagramming Assignment

1. Diagram an example of a weak entity including all primary and foreign keys. Does a weak entity have a strong or weak relationship?

**Answers:**

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An entity set that does not have a primary key is referred to as a weak entity set. The existence of a weak entity set depends on the existence of a strong entity set; it must relate to the strong set via a one-to-many relationship set. of attributes that distinguishes among all the entities of a weak entity set. Therefore, weak entity have weak relationship.

* Example:
  + payment-number – discriminator of the payment entity set
  + Primary key for payment – (loan-number, payment-number).
* The primary key of the strong entity set is not explicitly stored with the weak entity set, since it is implicit in the identifying relationship.
* If loan-number were explicitly stored, payment could be made a strong entity, but then the relationship between payment and loan would be duplicated by an implicit relationship defined by the attribute loan-number common to payment and loan.

1. Design a database using ER diagramming to keep track of college students, their academic advisors, the clubs they belong to, the moderators of the clubs, and the activities that the clubs sponsor. Come up with a primary key and several fields for each entity.

**Answers:**

**A close up of a map

Description automatically generated**

1. Practice: (Generalization/Specialization) Please complete the EER diagram for exercises 3.9 and 3.10 at the end of your chapter.

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A close up of a map

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1. Create the EER Diagram for the following: (includes Generalization/Specialization)

Inventory contains InventoryID, Description, Type, Location.

Supplier contains SupplierID, SupplierName, SupplierEmail.

Inventory has one supplier (required) and Suppliers supply one to many inventory items. Inventory can be Type B for Books for G for Gifts. If Type B, the inventory item also stores one Author name and one Publisher name. If Type G, the inventory item also stores GiftType and MaximumRetailPrice. Inventory has to be one type but cannot be both.

**Answer:**

A close up of a map

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1. A multivalued entity genre exists for individual tables in a movies table. Genre can be horror, comedy, short, action, adventure, etc.
   1. Show how the multivalued attribute would be represented in the ER diagram.
   2. If the cardinality is 1 to 2 for genre, can this be implemented just be adding fields to the movies table?
   3. If the cardinality is larger, how might this be implemented?

**Answer:**

1. A multivalued attribute like genre for entity movie is represented as follows:

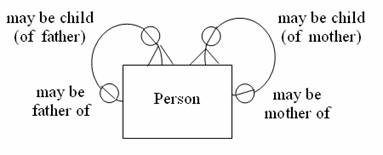
A close up of text on a white background

Description automatically generated

1. Yes, if the cardinality 1 to 2 for genre it can be implemented by just adding fields to the movie table.
2. Describe an example of a recursive relationship.

**Answer:**

Recursion in a data model is an especially difficult topic. We say we have a recursive relationship if the same entity type appears more than once in a relationship. Recursive relationships seem to always occur somewhere in a data model of decent size.  
An example is showing the relationship between a person and their parents. This can be represented graphically by:



1. What is the difference between CHEN, Crow's Foot, and UML Class Diagramming for entity relationship diagrams?

**Answer:**

The difference between Crow and UML is that crow feet uses crow symbol |------<- to show the relationship while UML uses the 0..\* or number to show the relationship.

While in Chen we use (min, max) the express the relationship. Where,

Min optional is. 0

Min compulsory is 1

Max 1 is 1

Max many: N or M.