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rows contain data about an attribute
column contain data about one attribute of entity

Weak entity cannot exist without another

Strong entity is not a weak entity

- Characteristic of relation
cells of the table holds a single value
each column has a unique name. All entries are of the same kind
- no two row are identical. Order of rows rand column not important
- The key of a relation/table is an attribute/column that select a row
Redundancy and multiple themes are two problem that occurs using list to maintain data

one to many, many to many are the other two cardinalities in addition to 1 to 1
Entity, attributes, and relationships are 3 component of the er data model
Composite key anyone of these could serve. Primary key main uses for relation/table

← many   ─ mandatory one   O← optional many |← mandatory many

Recursive relationship is one where an entity instance is related to another instance of same entity
4 database system component: users use track produce data to things reports data   database self describing   database collection of related data   Application intermediary between app and database   database management system
- Structured query language international standard for creating, processing, and query database and their
table. Surrogate key is a unique numerical value that is often added to relation to simplify select in grain
Foreign key is an attribute/column added from one table to another table to create relationship
between two tables   Intersection table is created from a many to many.
SQL not a program language is sublanguage. constraint is used to add foreign key or composite key to
Data definition language used to defined database structure. Data manipulation language - data retrieval
are the two sublanguage used to manage the organization of database tables and data in table   data define one updating
Create - create table. 3 element of select. select from a table, from a column, filter what you want (where)
Transforming ER diagrams. Create table for each entity. Create relationship by placing foreign key
Each entity's must be converted into table. CASCADE facilitates the changes in row with a
foreign key in a table when the original key is change. In converting one to many
relationship, one side is parent entity. Many side is child entity.
Where is used to filter rows from a select statement so that only rows that
meet criteria are returned.
Rule 2 for changing ER DIAgram transformation. Foreign key must be placed for each
relationship.

Asterisk symbol is used to select all the column of a table
Distinct keyword may be added to the select statement to inhibit duplicate row from showing
<> determine if two items are not equal. Built in SQL function. Count Min Max
count number of rows that match criteria
Delete is used to delete   min/may values for specified column
one or more rows of data from table. Drop is the keyword used to remove a table and
all of its component from the database
Or - one of two condition to be true, for it to be true. And both condition must be true for
it to be true   multiple character
Like keyword facilitates searches on partial values. Underscore - single wildcard. Percent
not keyword is used to filter rows from a select statement so that only rows
that meet a criteria are returned.

In keyword is used in select to match an item from a list/set

Join and subqueries are two ways to select data involving more then one table

The explicity keyword syntax for using multiple tables in a sing
select statement used the on keyword to add an additional
table to the query and the join keyword to specify
the filter for the additional table.

Truncate - delete while keeping structure.

Join ... on syntex can be used in joins. Join ^(move) into the from clause

left outer join: obtain data that exist in one table without matching data in other table
Right, Queries that feed on other queries subquery.

Sub query   Select
             from
            - where   (Select
                          From
                           where

Functional dependency - a relationship between attributes in which one attribute determines the value of another attribute in some tables. Tells thing that need to be grouped together

The attribute(s) the we used as the starting point is called determinant
Primary and canidate key will functionally determine all attributes in the row.

Normalization - process of analyzing a relation to ensure that it is well formed.
If a relation is normalized rows can be inserted, deleted, or modified without creating update anomalies.
Relational design principle for normalized relation
 · to be a well formed relation, every determinant must be a canidate key
 · Any relation that is not well formed should be broken into two or more well formed relation