Database Design - 1/25

Announcements

- Some parts of setup guide ready at https://github.com/wolfier/CS327E/wiki.
- Please finish setup before class on Monday, feel free to ask questions on Piazza.

Reading Quiz

- Q2: Keywords and Tables are required for all SQL commands.
- Q3: Small built-in programs are called functions.
- Q4: Many data types are provided in Postgres and other database engines.
- Q5: CREATE TABLE AS (SELECT ...) can create a table with the result of a select. But you cannot delete a table using CREATE TABLE.

Concepts

Relationship: association between two Entities.

Relationship Types:

- One-to-One: For example, storing larger objects such as objects in another table while keeping a one-to-one relationship.
- One-to-Many: For example, a customer and order relationship. The customer FK would be stored in the order table, since an order can only have one customer.
- Many-to-One
- Many-to-Many: For example, students and classes, a class can have multiple students and a student can enroll in multiple classes.

Note: The child table contains the foreign key which points back to the primary key in the parent table.

Practice Problem 1

Some relationships are dependent on the context. For example, do we want to allow artists to be a part of multiple groups or only one? Both are logically correct so we must look to the context (i.e. business logic, application constraints, etc.)

Practice Problem 2

The relationship between Groups and Genres is many-to-many because we want to allow groups to have multiple genres and more aparently, each genre will have multiple groups. Think in a music application, when you search for a genre you would want all the groups with that genre to show up.

Next Class

Working on Lab 1 the next two classes. Finish setup before coming to class. Sitting with partner during class.