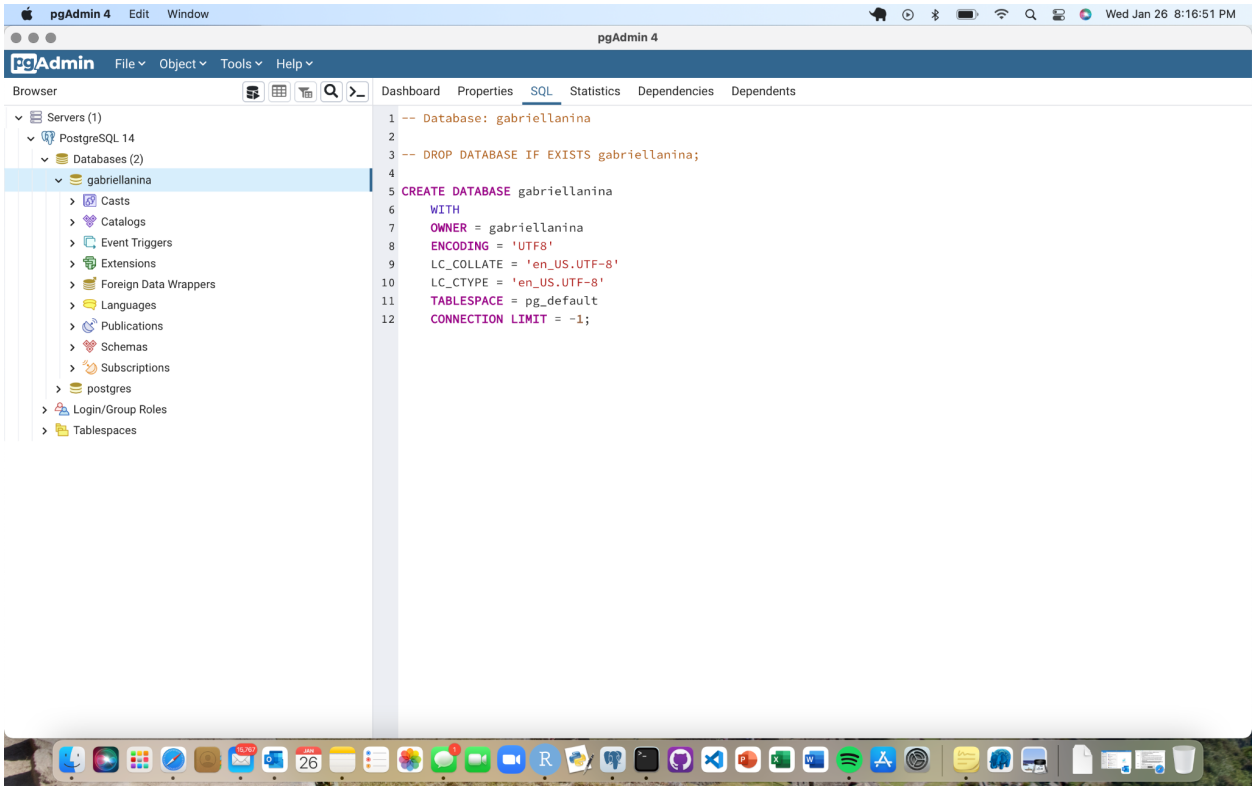
Gabriella Nina Lab 1 1/26/22

Short essay: Data vs. Information - Select a database in use today (real or imagined) and identify the elements of "data" stored therein and describe how the database organizes the "data" into "information". Give contrasting examples of "data" and "information" that illustrate the meaninglessness of "data" without context and organization. Talk about the value the "information" provides once the component data is given context.

An example of a database in use today would be the contacts app on your phone. Here the data that is stored are 7 digit phone numbers. These numbers are then assigned a contact name and are now contact information. If one is to store these 7 digit numbers without knowing it is a phone number or assigning a name then it is just a random 7 digit number that holds no information and is seen as "meaningless". By providing context to these 7 digit numbers we then know that these numbers are phone numbers and who they belong to. Another example of data that is meaningless without context are zip codes. Without context they are just 5 digit numbers that without any context hold no valuable information. However if these 5 digit numbers are indicated or labeled as zip codes this data becomes a lot more meaningful and useful.

Short Essay: Data Models - Briefly describe the hierarchical and network pre-relational data models. Explain their shortcomings in relation to the relational model. Considering this, what do you think of XML as a model for data storage?

The hierarchical data model was the first abstract data model. It is a tree like model that makes data easier to navigate which is an advantage. The data is stored in a parent child format and stored as records. Its disadvantage was that it operated at the physical level and that made it impossible for programmers to write code at a high level. The network pre-relational data model was a graph model formed from the hierarchical model to help with duplication. In comparison to the relational model it loses the tree-like or node structure and instead has tables with rows and columns which becomes an advantage for writing code at a higher level. Knowing this, XML is a good model because it is stored in tables and that is an advantage in programming in comparison to the tree-node models.


pgAdmin 4 Edit Window
Wed Jan 26 8:16:51 PM
pgAdmin 4
pgAdmin
File
Object
Tools
Help
Browser
Dashboard
Properties
SQL
Statistics
Dependencies
Dependents
Servers (1)
PostgreSQL 14
Databases (2)
gabriellanina
Casts
Catalogs
Event Triggers
Extensions
Foreign Data Wrappers
Languages
Publications
Schemas
Subscriptions
postgres
Login/Group Roles
Tablespaces
-- Database: gabriellanina
-- DROP DATABASE IF EXISTS gabriellanina;
CREATE DATABASE gabriellanina
WITH
OWNER = gabriellanina
ENCODING = 'UTF8'
LC_COLLATE = 'en_US.UTF-8'
LC_CTYPE = 'en_US.UTF-8'
TABLESPACE = pg_default
CONNECTION LIMIT = -1;