**Core content homework assignment 0 (CC0)**

**Part A**

Set up a Postgres database server on your own Mac, Windows, or Linux machine, or a virtual machine. Also install DBeaver. Open DBeaver and import the file wine.sql. (SQL files are available from the course webpage titled “SQL source for sample databases.”)

* Perhaps the easiest way to import a .sql file is to paste its contents into a new SQL script, then execute the script.
* It’s also possible to do this from the command line using something like

PGPASSWORD='mypassword' psql -h localhost -U postgres -d postgres -f wine.sql

* Feel free to experiment.

Note: if you have technical difficulties setting up or using a local Postgres database server, you can also use Supabase for completing this and any other homework assignment.

A1. (30 points) Submit a screenshot of DBeaver or your Supabase project, demonstrating that you have successfully imported wine.sql.

Browse the tables of the wine schema to answer the following questions. Note that you should not need to submit any SQL queries to answer these questions. It should be possible to answer these questions using the functionality built into DBeaver /Supabase.

A2. (2 points) How many tables are there in the wine schema?

A3. (2 points) How many columns are in the product table?

A4. (2 points) How many rows are in the supplies table?

A5. (2 points) How many null values are in the supplier table?

**Part B**

For each of the following descriptions, give an SQL query that would return the desired result from the wine schema.

B1. (5 points) All information in the product table.

B2. (5 points) The name and status of every supplier.

B3. (5 points) The same as the previous question, but the supplier name column should be given the label “Name” rather than “SUPNAME”.

B4. (5 points) A list of all cities where suppliers are based, with each city listed exactly once.

B5. (5 points) The product number and name of all sparkling wines.

B6. (5 points) The name of every supplier whose status is between 20 and 90 inclusive.

B7. (5 points) The names of all red wines whose available quantity is less than 10.

**Part C**

C1. (20 points) Suppose you are the president of a national college club that has thousands of members. The society currently stores information about its members in a spreadsheet. In a few sentences of your own words, describe some of the advantages that could be gained by storing this information in a database instead of a spreadsheet.

C2. (5 points) In your own words, describe the notion of *transaction* as it applies to database systems.

C3. (5 points) What type of DBMS is Postgres? Choose from: hierarchical, network, relational, object-relational. Describe what this means in 1-2 sentences of your own words.

C4. (20 points) What are the four ACID properties of a database system? Give a brief plain-English description of each one, in your own words.

Total points on assignment: 123