Assignment 4 (Weeks 7 & 8)

1. Explain the five (5) data types supported by SQLite. Cite your sources.
   1. **NULL**. The value is a NULL value.
   2. **INTEGER**. The value is a signed integer, stored in 1, 2, 3, 4, 6, or 8 bytes depending on the magnitude of the value.
   3. **REAL**. The value is a floating point value, stored as an 8-byte IEEE floating point number.
   4. **TEXT**. The value is a text string, stored using the database encoding (UTF-8, UTF-16BE or UTF-16LE).
   5. **BLOB**. The value is a blob of data, stored exactly as it was input.

**Sources are from textbook “The SQL Language” Chapter 4, Pages 36 & 37 and** [**https://www.sqlite.org**](https://www.sqlite.org)

1. Do all of the dot commands in appendix B of our text. Show your work. (Use a copy of our movie database). ***I had to use the my\_books database as I couldn’t get the movie database to work for this assignment. I hope that is okay.***

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1. Explain three-valued logic. Cite your sources.
   1. Three-valued logic can be true, false, or NULL. NULL is not a value but is used as a marker to flag unknown or missing data. There are times when values may not be available or applicable.

**Sources are from textbook “The SQL Language” Chapter 4, Page 31 and** [**https://modern-sql.com**](https://modern-sql.com)

1. Explain all of the SQLite operators (-, +, ||, etc.). Cite your sources.
   1. - + Adjusts the sign of a value. – operator flips the sign of the value, multiplying it by -1.0. + operator leaves sign with same sign it previously had.
   2. ~ This operator performs a bit-wise inversion, not part of SQL standard.
   3. NOT The NOT operator reverses a Boolean expression using three-valued logic.
   4. || String concatenation.
   5. + - \* / % These are standard arithmetic operators for addition, subtraction, multiplication, division, and remainders.
   6. < <= => > These are comparison test operators; less-than, less-than or equal, greater-than or equal, and greater than.
   7. = == != <> These are equality test operators. Both = and == test for equality, while both != and <> test for inequality.
   8. IN LIKE GLOB MATCH REGEXP These keywords are logic operators that return a true, false, or NULL state.
   9. AND OR These are logical operators that are subject to three-valued logic.

**Sources are from textbook “The SQL Language” Chapter 4, Page 33**