Context:

Why am I learning SQL?

SQL is a language that will allow me to communicate with a database, to ask questions about its contents, to change its contents, or even change its structure.

The specific database I am interrogating is Proquest’s British Periodicals archive, an online repository of several thousand British Periodicals

Proquest is a business that sells online access to large databases stored on their servers - they have several dozen collections of digitized Periodicals, images, and other artifacts of the past.

What is the difference between a file management system and a DBMS?

*File Management System*

* A file management system is the simplest and earliest Database Management System.
* Upsides is that PCs generally come with FMS built in (easy to access), easy to use
* Costs: Cannot store really large sets of data + Tables cannot be related → redundancy and difficulty changing repeated information

*Relational DB Management System*

* Organizes data into multiple tables which then can be related with shared datafields

IT = Information Technologies  
Questions investigated - How is data created, stored, processed, and used by computers?

What is a database?

A database is an **organized** **collection** of data stored **electronically**

What is a database management system (DBMS)?

A DBMS is a software system used by an end user or application, to interrogate and change a database.

What is a database system?

All of the database + Database management system + Applications

1980s - Relational databases become dominant. They are databases that store data in cells created by the rows and columns of a table. SQL used for querying.

2000s - Non Relational databases began to rise in popularity and NoSQL used for querying

Why is Oracle called Oracle? Is it because an Oracle is a channel that can provide unseen information (through divination)?

No, it is because a founder Ellison had been working on a top-secret CIA operation called Oracle while he was developing his company’s flagship product - Oracle Relational DBMS

What is the difference between a computer’s storage and memory?

Two analogies:

1. Human Brain = Computer

IN our brain, You and I both have short-term and long-term memories. Short-term memories, like what color my shirt is or what this table looks like, are stored temporarily, and most are cleared out of your mind everytime you go to sleep

Long-term memories on the other hand are stored in our brain indefinitely

Space that stores short-term memories = Memory

Space that stores long-term memories = Storage

1. Desk and File Cabinet analogy

DRAM = Dynamic Random Access Memory (access data quickly)

I have about 500 GB of space in storage on my disk drive

I have about 16 GB of space in Memory