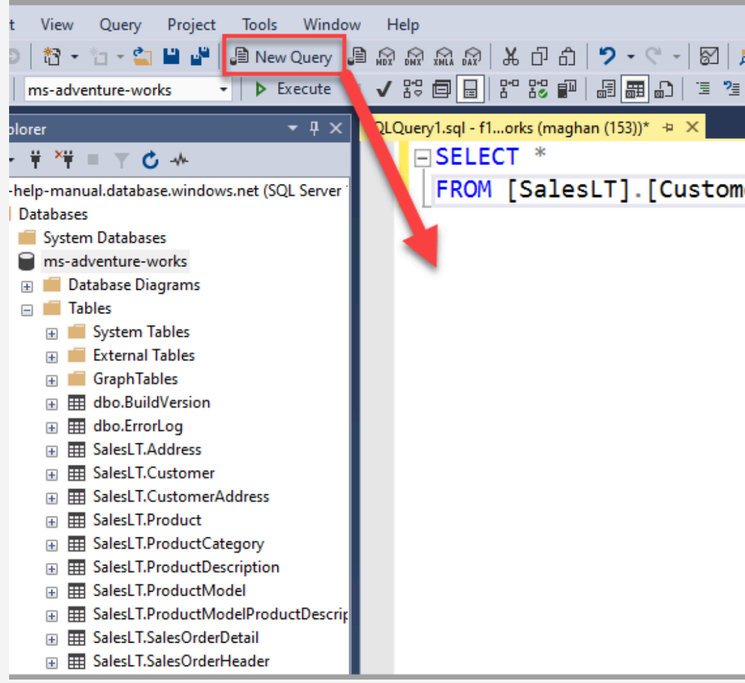
SQL

What is it and why is it relevant to you?



CALLING ALL MULTIMEDIA STUDENTS

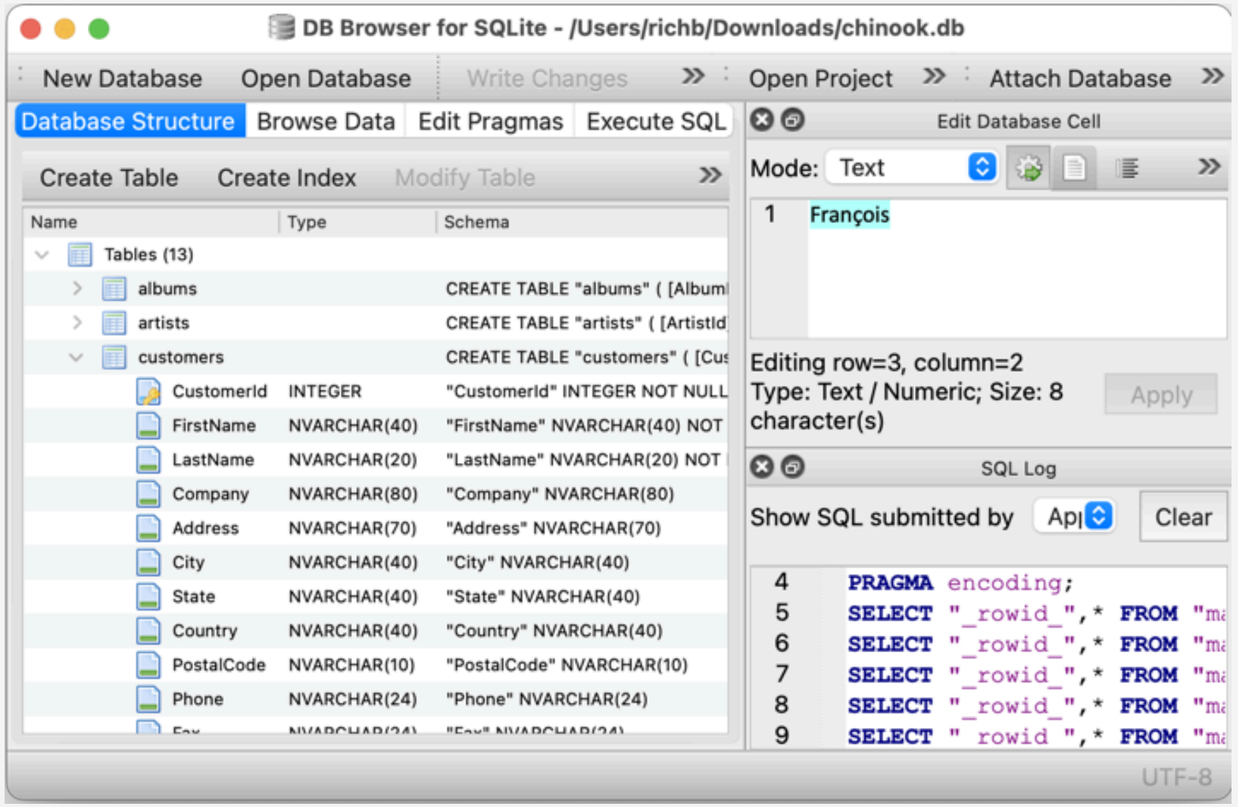
As our time at UCSB quickly comes to an end, our commitment to our career becomes more and more pressing.

Job applications, endless interviews, and countless hours on LinkedIn can be frustrating and tiresome.

In a constantly evolving world there is one thing that impacts nearly every career out there: data. As aspiring marketers, graphic designers, photographers, business moguls and more, we can all use data to our advantage.

How to get a jumpstart in navigating the world of big data? **Learn SQL.**

SQL???



An example brower using SQLite

What is it?

- SQL stands for Structured Query Language
- It is the standard language for managing and manipulating relational databases
  - Relational database= data organized into tables with rows and columns
- It is used to query, insert, update, and modify data
- Can be pronounced “sequel” or S-Q-L
- SQL is used to communicate with databases
- It is a great language to learn as it is descriptive and easy to understand

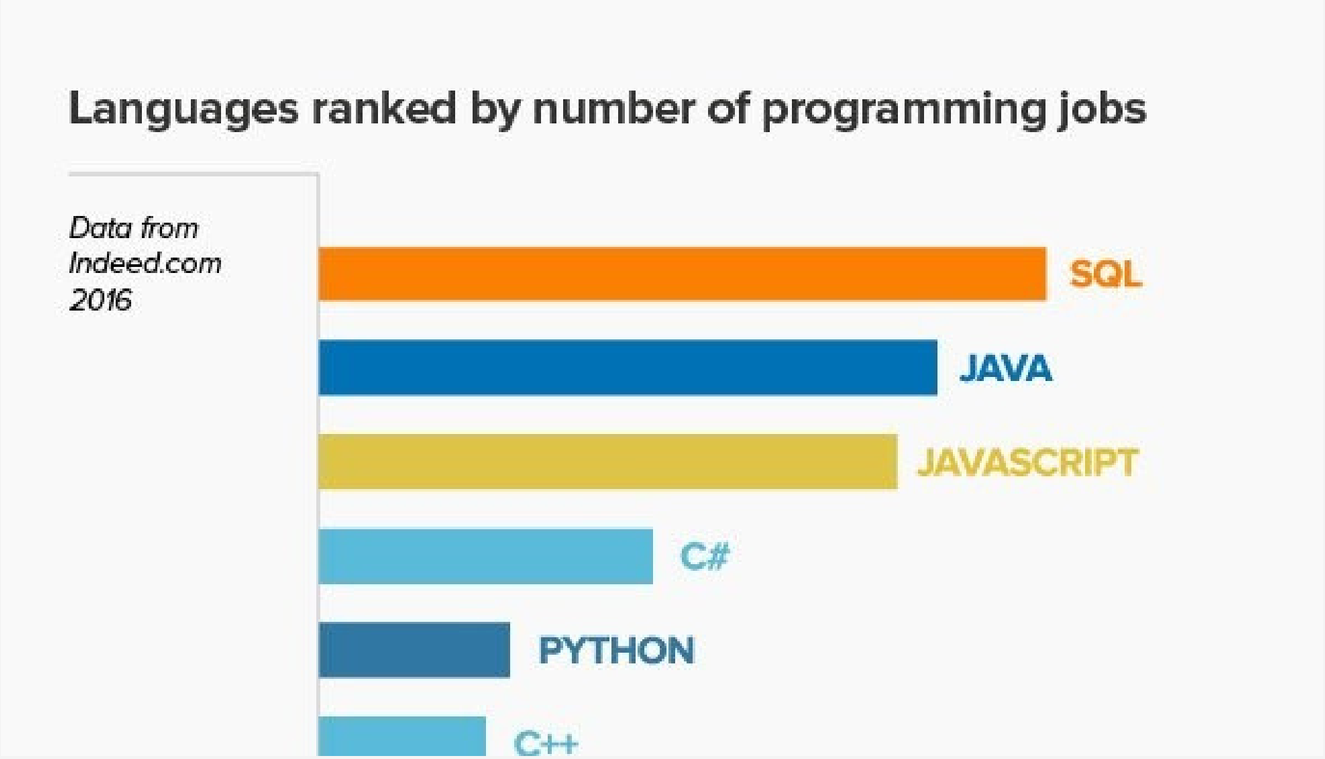
How is it used?

- Read/retrieve data
- Add data to a table
- Insert new data

WHY IS IT RELEVANT?

- **SQL is used by:**
  - Database administrators (DBAs) to manage databases
  - Software developers to interact with databases in applications
  - Data analysts and data scientists to analyze and query data

- **Example careers:**
  - Developer
  - QA engineer
  - Database admin
  - Analyst
  - System admin
  - Data architect
  - Systems engineer
  - Data scientist



BUT IS IT RELEVANT TO ME?

Yes! SQL is relevant to nearly every career integrated in the business world. Marketers, social media specialists, and creatives alike can utilize SQL to the benefit of their career.

POTENTIAL MULTIMEDIA CAREERS WITH SQL

SOCIAL MEDIA

A social media manager would benefit from SQL in order to analyze campaign performance, track user engagement, and monitor account growth. Social media is all about data, and SQL can help you filter/analyze it effectively.

MARKETING SPECIALIST

Marketing is another data-dependent field. Consumer history, campaign success analysis, email marketing analysis, and ROI calculation can all be seamlessly monitored through SQL. Many marketing analyst positions will actually expect proficiency in SQL!

SEO SPECIALIST

Search engine optimization (SEO) is completely backed by data and performance analytics. An SEO specialist would likely use SQL to track keyword performance, webpage traffic analysis, SEO audits, and content optimization.

DESIGNER

While it may seem as if a designer would not need to access data and track analytics, SQL is actually an effective asset to designers. Tracking design versions, assets, feedback, client requests, and design trends can all be done with SQL.

SQL VOCAB

Database: A structured collection of data stored electronically in a computer system. Databases are managed by Database Management Systems (DBMS).

Primary Key: A unique identifier for each row in a table, ensuring that no two rows have the same primary key value. It is used to identify records uniquely.

Foreign Key: A column or set of columns in one table that refers to the primary key of another table, creating a relationship between the two tables.

Query: A request made to the database to retrieve or manipulate data. SQL queries are written using SQL statements.

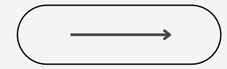
Some important SQL statements and clauses: SELECT, INSERT, UPDATE, DELETE, WHERE, JOIN, ORDER BY, GROUP BY, HAVING, DISTINCT, and NULL.

AN APPLICABLE EXAMPLE

Say you're an SEO specialist wanting to find the best keword to use in a blog post to increase website traffic. SQL is an excellent resource to efficiently complete this action.

Query Example: Track the performance of keywords by analyzing search queries and their resulting clicks and impressions:

```sql
SELECT
    Keyword,
    SUM(Impressions) AS TotalImpressions,
    SUM(Clicks) AS TotalClicks,
    (SUM(Clicks) / SUM(Impressions)) * 100 AS ClickThroughRate
FROM
    SearchQueries
GROUP BY
    Keyword
ORDER BY
    TotalClicks DESC;
```



LET'S BREAK IT DOWN

```sql
SELECT
    Keyword,
    SUM(Impressions) AS TotalImpressions,
    SUM(Clicks) AS TotalClicks,
    (SUM(Clicks) / SUM(Impressions)) * 100 AS ClickThroughRate
```

Here, we are selecting the keyword and calculating three metrics for each keyword:
-TotalImpressions: The total number of times the keyword was displayed (impressions).
-TotalClicks: The total number of times the keyword was clicked.
-ClickThroughRate: The percentage of impressions that resulted in clicks, calculated as (TotalClicks / TotalImpressions) * 100.

```sql
FROM
    SearchQueries
```

FROM SearchQueries:
-This specifies the table from which the data is being retrieved. In this case, the SearchQueries table likely contains data about impressions, and clicks.

```sql
GROUP BY
    Keyword
```

GROUP BY Keyword:
-This groups the results by the Keyword column, so the SUM and calculation functions are applied to each group of keywords, providing aggregated results for each keyword.

```sql
ORDER BY
    TotalClicks DESC;
```

ORDER BY TotalClicks DESC:
-This orders the results by the TotalClicks column in descending order, so the keywords with the highest number of clicks appear first.

EDUCATIONAL RESOURCE

Coursera: SQL for Data Science

There are many accessible programs online to get introduced to SQL. Even with a busy schedule, learning SQL is efficient and practical.