* Intro to SQL
  + At its core, a database is an organized collection of data
  + Intro to Database
    - Databases are organized according to a schema, as defined by the user
    - A database schema comprises declarations for the relations (“tables”) of the database
    - A database schema is a roadmap of tables and fields within each database. The schema is a blueprint of how a database is constructed and the relationship between tables.
    - There are 2 types of databases:
      * Relational databases
        + Is composed of “rows and columns<” similar to an Excel spreadsheet
        + Each entry is a row
        + Offers specific structure of tables and columns
        + Is strictly organized (only dates can go in the date column, only numbers can go in the numbers columns, ect)
      * Document-based (non-relational) databases
        + Each entry is a document
        + Is not strictly structured as a relational database
        + Accesses each record / document with a key or ID
        + Is general, the difference between a relational and document-based database is similar to the difference between tabular data formats (CSV, TXT) and markup-based formats (XML, JSON)
  + Intro to SQL
    - Why would you need to use SQL when you have Excel?
      * Excel and SQL both use many of the same functions (COUNT, IF THEN ELSE, SUM, ect)
      * There is also a limit of 1,048,576 rows and 16,384 columns
      * Finally, while VLOOKUP or INDEX / MATCH work well in Excel, they are not designed to work on a larger scale. This is where SQL comes in
    - SQL more easily relates data together across databases and distinguishes itself from Excel in terms of scalability. SQL can navigate databases robustly and retrieve or aggregate millions of records. SQL is also more adept than Excel at creating data flows for cleaning and preparing data at higher volumes.
    - SQL also has connections to other steps in the workflow:
      * Identify the problem: Before accessing a database, you should already have an idea of what you need in order to solve your problem
      * Understand the data: There are various ways of understanding what data is stored in a database, which you should leverage after you’ve used SQL to obtain it
      * Prepare the data: SQL can query, structure, clean, and aggregate data, and we can also use it to calculate useful statistics and visualtions once we’ve exported our data
    - SQL is the language used to access data in a relational database
    - You need to make sure the data you’re looking at in Excel and SQL is stored as the correct data type, otherwise your functions may not work