1. Explaining some concepts:
   1. What is SQL and what is it used for?
      1. Structured Query Language. It is used for database communication.
   2. What is a DBMS (like postgres) and what does it do?
      1. Database Management Systems (DBMS) it is used of database management through an interface – like postgres
   3. What is DDL and what is DML? Also which types of data does each apply to?
      1. DDL stands for data description language. Through commands it can modify tables in a database.
      2. DML stands for data manipulation language. It modifies the data within the tables in a database.
2. Basic commands for table creation
   1. Write the code to create a table named people with the following columns: id, name, email, DOB, city, ZIP and state. Part of the code here should also drop any table called people before making this table. The types of the columns should make sense -like DOB is a date type.
   2. Write the code that inserts full rows (funny names preferred) into this table. Insert 3 different rows and print the output here. id should be sequential from 1-3
   3. alter people to also include a column called street number.
   4. update the individual who's id is 2 and change his city to Tokyo.
      1. Why is changing the city where someone lives a bad idea? Can you think of a better design than this?
      2. Because if the city changes the state also changes – its not permanent stable data because it often changes in people decide to move.
   5. count the number of people in the table.
      1. Is it better to create a view here or to run the SQL code? Why?
      2. It is better to create a view, you can run the code but you’ll have to continue to do alteration so it doesn’t make sense to run the code.
   6. find the oldest person and the youngest person in the table (2 different questions). \*Bonus if you can do it in one query. (if you don't have dates, update dates or add more people)
   7. Who lives in Brooklyn NY?
   8. delete the person who is not the oldest and not the youngest (if you have more than 3 people, just delete 1)

create table people(

id int,

name char(15),

dob date,

city char(15)

state char(15)

);

Insert into people (id, name, dob, city, state) values(1, ‘Batman Bin Suparman, ‘1988-02-02’, ‘Dhaka’, ‘Bangaledesh’),

(2, ‘Joe Looney, ‘1989-02-02’, ‘NewYork, ‘US),

(3, ‘Shelby Warde, ‘1990-05-02’, ‘Maldives, ‘Male),

select \* from people

alter tables people

add column street\_number int;

alter table people

drop column state;

update people

set city = ‘Tokyo’

where

people.d = 2;

select count(\*) from people;

select \* from people

where dob = (select min(dob) from people);

select \* from people

where dob = (select max(dob) from people);

select \* from people

where people.city = ‘Brooklyn NY’;

Delete from people

Where dob = (select min(dob) from people) or dob = (select max(dob) from people);

Select \* from people

1. Based on table 2:
   1. alter people and drop the column called state.
      1. \*Challenge: write the code to create a new table that can query zip codes and provide the state associated with the code. **Note**, don’t input actual data into it, just create the table.
         1. Create table zipcode(
         2. Zipcode int
         3. );
      2. The above (i) is called normalization. Do you think that it’s a good idea? Are there times when such an implementation is a good idea?
      3. Normalization is used to search and sort indexes a lot faster than looking for data manually. It’s a great idea when there is an overwhelming amount of data collected and only specific things need to be searched up.