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Software Engineering HW 2

ECDID

My task for this week was to create a database that aligned with our ERD. I personally used PostgreSQL to implement the database, but this can be easily tweaked to fit any other SQL-supporting database.

During our meeting on Friday, we learned we needed to also keep track of which batches have issues with them so that they can be referred to later when investigating the problems. In order to do this, I added a new table to the database and edited the ERD in order to reflect that change. I have attached that edited ERD to this page (the new table name is Problem\_Batch). Because each batch will only have one location, I edited the Location\_Batch to Batch connector to be a one-to-one relationship. Because each batch is also only going to one place, the Problem\_Batch also only has a one-to-one relationship to a Batch, since once the batch has a problem, it is either going to be scheduled to be replaced (outside the bounds of our project) or is already replaced entirely.

I have a feeling we will be adding more functionality or stripping away functionality at some point, so my SQL script starts by dropping all databases. Obviously, once the databases are full of actual data and not junk data that I randomly type in, I will create a more elegant solution instead of just dropping everything in the beginning. But that is for a future project and is easily edited into the script because of the nature of SQL scripting.

DROP TABLE IF EXISTS BATCH;  
DROP TABLE IF EXISTS PLANT;  
DROP TABLE IF EXISTS LOCATION\_BATCH;  
DROP TABLE IF EXISTS LOCATION;  
DROP TABLE IF EXISTS PROJECT\_LOCATION;  
DROP TABLE IF EXISTS CLIENT\_LOCATION;  
DROP TABLE IF EXISTS CLIENT;  
DROP TABLE IF EXISTS CLIENT\_PROJECT;  
DROP TABLE IF EXISTS PROJECT;  
DROP TABLE IF EXISTS PROBLEM\_BATCH;  
  
CREATE TABLE BATCH (  
 BATCH\_ID SERIAL PRIMARY KEY,  
 RFID TEXT,  
 CREATION\_DATE DATE,  
 PLANT\_ID INT,  
);  
  
CREATE TABLE PROBLEM\_BATCH (  
 PROBLEM\_BATCH\_ID SERIAL PRIMARY KEY,  
 BATCH\_ID INT,  
 RESOLVED BOOLEAN  
);  
  
CREATE TABLE PLANT(  
 PLANT\_ID SERIAL PRIMARY KEY,  
 PLANT\_NAME TEXT  
);  
  
CREATE TABLE LOCATION\_BATCH (  
 LOCATION\_BATCH\_ID SERIAL PRIMARY KEY,  
 ARRIVAL\_DATE DATE,  
 BATCH\_ID INT,  
 LOCATION\_ID INT  
);  
  
CREATE TABLE LOCATION (  
 LOCATION\_ID SERIAL PRIMARY KEY,  
 LOCATION\_NAME TEXT  
);  
  
CREATE TABLE PROJECT\_LOCATION (  
 PROJECT\_LOCATION\_ID SERIAL PRIMARY KEY,  
 PROJECT\_ID INT,  
 LOCATION\_ID INT  
);  
  
CREATE TABLE CLIENT\_LOCATION (  
 CLIENT\_LOCATION\_ID SERIAL PRIMARY KEY,  
 LOCATION\_ID INT,  
 CLIENT\_ID INT  
);  
  
CREATE TABLE CLIENT(  
 CLIENT\_ID SERIAL PRIMARY KEY,  
 CLIENT\_NAME TEXT,  
 CLIENT\_PHONE TEXT,  
 CLIENT\_EMAIL TEXT  
);  
  
CREATE TABLE CLIENT\_PROJECT (  
 CLIENT\_PROJECT\_ID SERIAL PRIMARY KEY,  
 CLIENT\_ID INT,  
 PROJECT\_ID INT  
);  
  
CREATE TABLE PROJECT (  
 PROJECT\_ID SERIAL PRIMARY KEY,  
 PROJECT\_NAME TEXT  
);