1. Consider the AIRCRAFT database described by the following Crowsfoot diagram.

Write SQL queries for this schema which

a) Show all models (code and name) of aircraft that have been chartered (that is, rented) by a customer who has area code 541.
b) For each pilot, list the pilot’s name and the number of charters that person has been hired for (include those with zero).

c) List all the pilots (name and rating) that be hired from September 1, 2017 to November 7, 2017 and qualified to fly “Boeing 747” (name of model).

d) Show all charters whose assigned pilot is NOT qualified to fly the model of aircraft which is assigned to that charter.

e) (551) List all charters that use an aircraft of the most common model. (That is, look at the number of aircraft for each model. The most common model has the most aircraft. List charters that use one of those models. Include ties and give the model name.)
2. Draw an ER Diagram for the CAR_INSURANCE problem.

- There are several insurance **companies**, with a unique code, they also have a name and an address.
- There are many **customers**, with customer id, first and last names, address, phone, and email.
- Customers can own many several **cars** (with license, vin, make, model, year), but a car is owned by exactly one customer.
- Customers purchase **policies** from the companies for their cars. A policy has a text, a policy number, and a cost. A policy involves one car, one customer, and one company.
- Two different companies may issue a policy with the same policy number (so **policy** is weak).
- **Accidents** need to be recorded. Accidents have a date (partial key), a description, and are charged to (and owned by) a policy.

Be sure to use the Chen ER notation from the text or the Crowsfoot style as used by MySQLWorkbench.
3. Convert the GRANT ER Diagram to a relational schema. Indicate primary keys and foreign keys.