

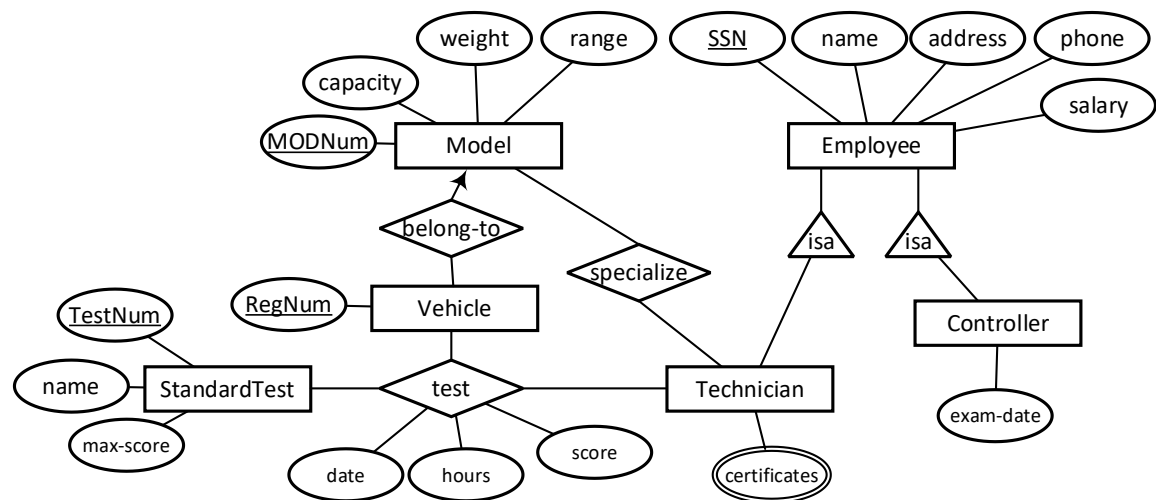
Name: _____

EECS447 Mini-project I

Design and draw an ER diagram for each of the questions. Be sure to include keys and constraints in the diagram.

1. You have been hired to design an RDBMS for the Luxury Limousines Inc. which operates a number of vehicles. The relevant information is given below. (60 points)

- Each model is identified by a MOD number (e.g., LIN200) and has a capacity and weight. In addition, the model also has a range (e.g., 500 miles) associated with it.
- Every vehicle is identified by its REG number. Each vehicle is of a specific model.
- You need to store the name, SSN, address, phone number and salary of each employee. You can assume that SSN uniquely identifies each employee.
- Company employees include *technicians* and *controllers*. For technicians, we need to record their certificates. We only store the names of the certificates. A technician may own multiple certificates.
- Each technician specializes in one or more vehicle models.
- The controllers are exposed to a lot of smoke emissions and also because their job is important, they need to have an annual medical examination. The date of the most recent exam must be stored for each controller.
- The company performs a number of tests periodically to ensure that the vehicles are in good condition. Each test is identified by a DMV test number. The test also has a name and a maximum possible score.
- The company keeps track of each time a given vehicle is checked by a given technician using a given test. For each test, we record the date, the number of hours spent in testing and the score the vehicle received on the test.



2. A real estate company hired you to develop an ER diagram for them. The following scenario describes the company. (40 points)

- Each employee is identified by his/her ID. We also store the employee's name, birth date, and awards.
- The company has a number of sales branches. A branch is described by the branch ID (key), an address, and the number of employees at the branch.
- Each sales branch is assigned one or more employees. An employee must be assigned to only one branch.
- For each branch, there is always one employee assigned to manage that branch. We also record whether the manager is permanent or temporary.
- Each branch has a number of meeting rooms. Each meeting room is identified by a room number, which is assigned by the branch. However, meeting rooms at different sales branches may be assigned the same number. For each meeting room, we also store its capacity and the last renovation date.

