# **9.6 Homework: SQL and Databases**

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## **Question 11**

**Part a: Find the ID and name of each student who has taken at least one Comp. Sci course; make sure there are no duplicate names in the result.**

**Part b: Find the ID and name of each student who has not taken any course offered before 2017.**

**Part c: For each department, find the max salary of the instructors in that department. You may assume that every department has at least one instructor.**

**Part d: Find the lowest, across all departments, of the per-department maximum salary computes by the preceding query.**

## **Question 12**

**Part a: Create a new course “CS-001” titled “Weekly Seminar” with 0 credits.**

**Part b: Create a section of this course in Fall 2017, with sec\_id = 1, and with the location of the section not yet specified.**

**Part c: Enroll every student in the Comp. Sci department in the above section.**

INSERT WITH SELECT

**Part d: Delete enrollments in the above section where the student’s ID is 12345.**

**Part f: Delete all *takes* tuples corresponding to any section of any course with the word “advanced” as a part of the title; ignore case when matching the word with the title.**

## **Question 13**

**Write SQL DDL corresponding to the schema in Figure 3.17. Make any reasonable assumptions about data types, and be sure to declare primary and foreign keys.**

**# first DROP existing tables to recreate**

**# warning, this will delete any data in these tables**

DROP TABLE IF EXISTS person

DROP TABLE IF EXISTS car

DROP TABLE IF EXISTS accident

DROP TABLE IF EXISTS owns

DROP TABLE IF EXISTS participated

**# create person table**

CREATE TABLE IF NOT EXISTS person

(driver\_id integer NOT NULL PRIMARY KEY AUTOINCREMENT NOT NULL,

name text NOT NULL, address text)

**# create car table**

CREATE TABLE IF NOT EXISTS car

(license\_plate text NOT NULL PRIMARY KEY

CHECK(

typeof("license\_plate") = "text" AND

length("license\_plate") > 0 AND

length("license\_plate") <= 20

),

model text NOT NULL,

year integer NOT NULL

CHECK (year > 1930 AND))

**# create accident table**

CREATE TABLE IF NOT EXISTS accident

(report\_number integer NOT NULL PRIMARY KEY AUTOINCREMENT NOT NULL,

year integer NOT NULL

CHECK (year > 2000),

location text NOT NULL DEFAULT 'Unknown')

**# create owns table**

CREATE TABLE IF NOT EXISTS owns

(driver\_id integer NOT NULL,

license\_plate text NOT NULL,

PRIMARY KEY(driver\_id,license\_plate))

**# create participated table**

CREATE TABLE IF NOT EXISTS participated

(report\_number integer NOT NULL,

license\_plate text NOT NULL,

driver\_id integer NOT NULL,

damage\_amount real NOT NULL DEFAULT 0,

FOREIGN KEY(driver\_id) REFERENCES person(driver\_id),

PRIMARY KEY(report\_number,license\_plate))