CS 146: Homework 3. Due Feb.11\textsuperscript{th}, 12noon.

Ques.1: In this question repeat Question 2 of Homework 2. Provide SQL code for the queries in Question 2, Homework 2.

Ques.2: In this question, provide SQL queries for the queries in Question 4 of Homework 2.

Ques.3: For the COMPANY database in Homework 2, and shown below with additional table (called DEPENDENTS), provide SQL queries for the following:
  - List all project numbers associated with Smith, either as manager of a controlling department or as an employee working on the project.
  - Find names of employees who work on the same project that Smith works on.
  - Find names of employees who have no dependents.
  - Find names of employees with at least two dependents.
  - Find departments with at least 10 employees.
  - Find average salary and department names, for each department (the average salary of a department is the average of all salaries of employees assigned to a department).
  - Find the department number and name of the department with the largest average salary (of its employees).
  - Give a 50% pay-cut to the employee with the highest salary.
CREATE TABLE EMP (  SSN int PRIMARY KEY,  Name Varchar(50),  Birthdate Date,  Street Varchar(50),  City Varchar(50),  DNO int,  SuperSSN int,  Salary Real,  FOREIGN KEY (DNO) REFERENCES DEPT(DNUM),  FOREIGN KEY (SuperSSN) REFERENCES EMP(SSN));

CREATE TABLE DEPT (  DNUM int PRIMARY KEY,  DNAME Varchar(50),  MGRSSN int,  UNIQUE DNAME,  FOREIGN KEY (MGRSSN) REFERENCES EMP(SSN));

CREATE TABLE PROJECTS(  PNum int PRIMARY KEY,  Pname Varchar(50),  Plocation Varchar(50),  DNO int,  FOREIGN KEY (DNO) REFERENCES DEPT(DNUM));

CREATE TABLE WORKS(  ESSN int,  PNO int,  HOURS int,  PRIMARY KEY (ESSN, PNO),  FOREIGN KEY (ESSN) REFERENCES EMP(SSN),  FOREIGN KEY (PNO) REFERENCES PROJECTS(PNUM));

CREATE TABLE DEPENDENT(  ESSN int NOT NULL,  DEPNAME Varchar(50) NOT NULL,  SEX char,  BDATE Date,  RELATIONSHIP Varchar(10),  PRIMARY KEY (ESSN, DEPNAME),  FOREIGN KEY (ESSN) REFERENCES EMPLOYEE(SSN));