

CS 178: Homework 3. Due Feb.11th, 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),  
    Plocati on 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));
```