DROP TABLE IF EXISTS Departments;

DROP TABLE IF EXISTS dept\_emp;

DROP TABLE IF EXISTS dept\_manager;

DROP TABLE IF EXISTS employees;

DROP TABLE IF EXISTS salaries;

DROP TABLE IF EXISTS titles;

CREATE TABLE departments (

dept\_no VARCHAR(10) NOT NULL PRIMARY KEY,

dept\_name VARCHAR(30) NOT NULL

);

CREATE TABLE employees (

emp\_no INTEGER PRIMARY KEY,

birth\_date DATE NOT NULL,

first\_name VARCHAR(30) NOT NULL,

last\_name VARCHAR(30) NOT NULL,

gender VARCHAR(10) NOT NULL,

hire\_date DATE NOT NULL

);

CREATE TABLE dept\_emp (

emp\_no INTEGER NOT NULL,

dept\_no VARCHAR(10) NOT NULL,

from\_date DATE NOT NULL,

to\_date DATE NOT NULL,

PRIMARY KEY (emp\_no, dept\_no),

FOREIGN KEY (dept\_no) REFERENCES departments(dept\_no),

FOREIGN KEY (emp\_no) REFERENCES employees (emp\_no)

);

CREATE TABLE dept\_manager (

dept\_no VARCHAR(10) NOT NULL,

emp\_no INTEGER NOT NULL,

from\_date DATE NOT NULL,

to\_date DATE NOT NULL,

PRIMARY KEY (dept\_no, emp\_no),

FOREIGN KEY (dept\_no) REFERENCES departments(dept\_no),

FOREIGN KEY (emp\_no) REFERENCES employees (emp\_no)

);

CREATE TABLE salaries (

emp\_no INTEGER NOT NULL PRIMARY KEY,

salary INTEGER NOT NULL,

from\_date DATE NOT NULL,

to\_date DATE NOT NULL,

FOREIGN KEY (emp\_no) REFERENCES employees (emp\_no)

);

CREATE TABLE titles (

emp\_no INTEGER NOT NULL,

title VARCHAR(30) NOT NULL,

from\_date DATE NOT NULL,

to\_date DATE NOT NULL,

PRIMARY KEY (emp\_no, title, from\_date),

FOREIGN KEY (emp\_no) REFERENCES employees (emp\_no)

);

Interesting observation: There are two employees with two records in Titles table with the same title (different date ranges though).

select emp\_no, title, count(\*) from titles

group by emp\_no, title

having count(\*)>1;

select \* from titles

where emp\_no = 110386 or emp\_no = 110765;

// 1. List employee number, last name, first name, gender, and salary.

Select A.emp\_no, A.last\_name, A. first\_name, A.gender, B.salary

from employees A join salaries B

on A.emp\_no = B.emp\_no

// 2. List employees who were hired in 1986.

Select \* from employees where hire\_date between '1986-01-01' and '1986-12-31'

// 3. List the manager of each department with the following information: department number, department name, the manager's employee number, last name, first name, and start and end employment dates.

Select A.dept\_no, B.dept\_name, A.emp\_no, C.last\_name, C.first\_name, A.from\_date, A.to\_date

From dept\_manager A, departments B, employees C

Where A.dept\_no = B.dept\_no and

A.emp\_no = C.emp\_no

OR (both produce same result)

Select A.dept\_no, B.dept\_name, A.emp\_no, C.last\_name, C.first\_name, A.from\_date, A.to\_date

From dept\_manager A join departments B on A.dept\_no = B.dept\_no

Join employees C on A.emp\_no = C.emp\_no

// 4. List the department of each employee with the following information: employee number, last name, first name, and department name.

Select A.emp\_no, A.last\_name, A.first\_name, C.dept\_name

From employees A, dept\_emp B, departments C

Where A.emp\_no = B.emp\_no and

B.dept\_no = C.dept\_no

OR (both produce same result)

Select A.emp\_no, A.last\_name, A.first\_name, C.dept\_name

From employees A join dept\_emp B on A.emp\_no = B.emp\_no

join departments C on B.dept\_no = C.dept\_no

// 5. List all employees whose first name is "Hercules" and last names begin with "B."

Select \* from employees

Where first\_name = 'Hercules' and last\_name like 'B%'

// 6. List all employees in the Sales department, including their employee number, last name, first name, and department name.

Select A.emp\_no, A.last\_name, A.first\_name, C.dept\_name

From employees A, dept\_emp B, departments C

Where A.emp\_no = B.emp\_no and

B.dept\_no = C.dept\_no and

C.dept\_name = 'Sales'

OR (both produce same result)

Select A.emp\_no, A.last\_name, A.first\_name, C.dept\_name

From employees A join dept\_emp B on A.emp\_no = B.emp\_no

join departments C on B.dept\_no = C.dept\_no

and C.dept\_name = 'Sales'

// 7. List all employees in the Sales and Development departments, including their employee number, last name, first name, and department name.

Select A.emp\_no, A.last\_name, A.first\_name, C.dept\_name

From employees A, dept\_emp B, departments C

Where A.emp\_no = B.emp\_no and

B.dept\_no = C.dept\_no and

(C.dept\_name = 'Sales' or C.dept\_name ='Development')

OR

Select A.emp\_no, A.last\_name, A.first\_name, C.dept\_name

From employees A join dept\_emp B on A.emp\_no = B.emp\_no join departments C

on B.dept\_no = C.dept\_no where

(C.dept\_name = 'Sales' or C.dept\_name ='Development')

// 8. In descending order, list the frequency count of employee last names, i.e., how many employees share each last name.

Select last\_name, count(\*)

From employees

Group by last\_name order by count(\*) desc