**/\* DATA MODELING AND DATA ENGINEERING**

**Inspect the CSVs, sketch out the Tables**

**Create the six table schemas and import each**

**CSV file into the corresponding SQL table\*/**

**CREATE TABLE** departments (

dept\_no **VARCHAR (255) PRIMARY KEY,**

dept\_name **VARCHAR (255));**

**CREATE TABLE** dept\_emp (

emp\_no **INTEGER REFERENCES employees(emp\_no),**

dept\_no **VARCHAR (255) REFERENCES departments(dept\_no),**

from\_date DATE**,**

to\_date **DATE);**

**CREATE TABLE** dept\_manager (

dept\_no **VARCHAR(255) REFERENCES departments(dept\_no),**

emp\_no **INT REFERENCES employees(emp\_no),**

from\_date **DATE,**

to\_date **DATE);**

**CREATE TABLE** employees (

emp\_no **INT PRIMARY KEY**,

birth\_date **DATE,**

first\_name **VARCHAR (255),**

last\_name **VARCHAR (255),**

gender **VARCHAR (15),**

hire\_date **DATE**);

**CREATE TABLE** salaries (

emp\_no **INT REFERENCES employees(emp\_no),**

salary **INT,**

from\_date **DATE,**

to\_date **DATE);**

**CREATE TABLE** titles (

emp\_no **INT REFERENCES employees(emp\_no)**,

title **VARCHAR (255),**

from\_date **DATE,**

to\_date **DATE);**

**SELECT \* FROM** salaries;

**SELECT \* FROM** dept\_emp;

**SELECT \* FROM** titles;

**SELECT \* FROM** departments;

**SELECT \* FROM** dept\_manager;

**SELECT \* FROM** employees;

**/\* DATA ANLYSIS \*/**

**/\* 1. List the following details of each employee: employee number,**

**last name, first name, gender, and salary. \*/**

**SELECT** employees.emp\_no, last\_name, first\_name, gender, salaries.salary

**FROM** employees

J**OIN** salaries **ON**  employees.emp\_no = salaries.emp\_no;

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

**SELECT \* FROM** employees

**WHERE DATE\_PART('year'**, hire\_date)= 1986;

**/\* 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** departments.dept\_no, departments.dept\_name, employees.emp\_no As manager\_emp\_no,

last\_name, first\_name, dept\_manager.from\_date, dept\_manager.to\_date

**FROM** departments

**JOIN** dept\_manager **ON** departments.dept\_no = dept\_manager.dept\_no

**JOIN** employees **ON** employees.emp\_no = dept\_manager.emp\_no;

/\* **4. List the department of each employee with the following**

**information: employee number, last name, first name, and department name. \*/**

**SELECT** employees.emp\_no,last\_name, first\_name, departments.dept\_name

**FROM** employees

**JOIN** dept\_emp **ON** employees.emp\_no = dept\_emp.emp\_no

**JOIN** departments **ON** departments.dept\_no = dept\_emp.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** employees.emp\_no,last\_name, first\_name, departments.dept\_name

**FROM** employees

**JOIN** dept\_emp **ON** employees.emp\_no = dept\_emp.emp\_no

**JOIN** departments **ON** departments.dept\_no = dept\_emp.dept\_no

**WHERE** departments.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** employees.emp\_no, last\_name, first\_name, departments.dept\_name

**FROM** employees

**JOIN** dept\_emp **ON** employees.emp\_no = dept\_emp.emp\_no

**JOIN** departments **ON** departments.dept\_no = dept\_emp.dept\_no

**WHERE** departments.dept\_name **IN** ('Sales', '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(last\_name) AS frequency\_count FROM employees

**GROUP BY** last\_name

**ORDER BY** frequency\_count **DESC;**