All SQL Code (diagram and all queries)

Diagram Code (Quickdiagrams.com)

<https://app.quickdatabasediagrams.com/#/d/C32snv>

departments

-

dept\_no VARCHAR(255) FK >- department\_employee.dept\_no

dept\_name VARCHAR(255)

department\_employee

-

emp\_no INT

dept\_no VARCHAR(255)

department\_manager

-

emp\_no INT FK >- employee\_data.emp\_no

dept\_no VARCHAR(255) FK >- departments.dept\_no

employee\_data

-

emp\_no INT FK >- department\_employee.emp\_no

emp\_title\_id VARCHAR(255) FK >- titles.title\_id

birth\_date Date

first\_name VARCHAR(255)

last\_name VARCHAR(255)

sex VARCHAR(255)

hire\_date DATE

salaries

-

emp\_no INT FK >- employee\_data.emp\_no

salary INT

titles

-

title\_id VARCHAR(255)

title VARCHAR(255)

Creating Tables (pgAdmin)

CREATE TABLE departments (

dept\_no VARCHAR(255) PRIMARY KEY,

dept\_name VARCHAR(255)

);

CREATE TABLE titles (

title\_id VARCHAR(255) PRIMARY KEY,

title VARCHAR(255)

);

CREATE TABLE employee\_data (

emp\_no INT PRIMARY KEY,

emp\_title\_id VARCHAR(255),

FOREIGN KEY (emp\_title\_id) REFERENCES titles (title\_id),

birth\_date Date,

first\_name VARCHAR(255),

last\_name VARCHAR(255),

sex VARCHAR(255),

hire\_date DATE

);

CREATE TABLE salaries (

emp\_no INT,

FOREIGN KEY (emp\_no) REFERENCES employee\_data (emp\_no),

salary INT

);

CREATE TABLE department\_employee (

emp\_no INT,

dept\_no VARCHAR(255),

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

);

CREATE TABLE department\_manager (

emp\_no INT,

FOREIGN KEY (emp\_no) REFERENCES employee\_data (emp\_no),

dept\_no VARCHAR(255),

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

);

Homework Questions

**SOLVED** 1.List the following details of each employee: employee number, last name, first name, sex, and salary.

SELECT ed.emp\_no, ed.emp\_title\_id, ed.birth\_date, ed.first\_name, ed.last\_name, ed.sex, ed.hire\_date, salaries.salary

FROM employee\_data AS ed

JOIN salaries ON

employee\_data.emp\_no=salaries.emp\_no;

**SOLVED** 2. List first name, last name, and hire date for employees who were hired in 1986.

SELECT first\_name, last\_name, hire\_date

FROM employee\_data

WHERE hire\_date BETWEEN '1986-01-01' AND '1986-12-31';

**SOLVED**3. List the manager of each department with the following information: department number, department name, the manager's employee number, last name, first name.

SELECT employee\_data.emp\_no, employee\_data.emp\_title\_id,

employee\_data.first\_name, employee\_data.last\_name, department\_manager.dept\_no, departments.dept\_name

FROM employee\_data

JOIN department\_manager

ON employee\_data.emp\_no=department\_manager.emp\_no

RIGHT JOIN departments

ON department\_manager.dept\_no=departments.dept\_no;

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

SELECT employee\_data.emp\_no, employee\_data.emp\_title\_id,

employee\_data.first\_name, employee\_data.last\_name, department\_employee.dept\_no, departments.dept\_name

FROM employee\_data

JOIN department\_employee

ON employee\_data.emp\_no=department\_employee.emp\_no

RIGHT JOIN departments

ON department\_employee.dept\_no=departments.dept\_no;

**Does employees include managers?**

**SOLVED** 5. List first name, last name, and sex for employees whose first name is "Hercules" and last names begin with "B."

SELECT first\_name, last\_name, sex FROM employee\_data

WHERE first\_name = 'Hercules' AND last\_name LIKE 'B%';

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

SELECT employee\_data.emp\_no, employee\_data.emp\_title\_id,

employee\_data.first\_name, employee\_data.last\_name, department\_employee.dept\_no, departments.dept\_name

FROM employee\_data

JOIN department\_employee

ON employee\_data.emp\_no=department\_employee.emp\_no

RIGHT JOIN departments

ON department\_employee.dept\_no=departments.dept\_no

WHERE dept\_name= 'Sales';

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

SELECT employee\_data.emp\_no, employee\_data.emp\_title\_id,

employee\_data.first\_name, employee\_data.last\_name, department\_employee.dept\_no, departments.dept\_name

FROM employee\_data

JOIN department\_employee

ON employee\_data.emp\_no=department\_employee.emp\_no

RIGHT JOIN departments

ON department\_employee.dept\_no=departments.dept\_no

WHERE dept\_name= 'Sales' OR dept\_name='Development'

ORDER BY emp\_no ASC;

**LAST LINE MAY NOT BE REQUIRED**

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

SELECT COUNT(\*), last\_name

FROM employee\_data

GROUP BY last\_name

ORDER BY last\_name DESC;

BONUS: