NOTE: If you try the following queries in the sample database, you will get "no rows selected" for some of the queries because there are no data that matches the condition(s). The answer given is not wrong. Try with a different data valus to see the result.

1.Show the manager for each department, include relevant information.

select manager\_id, department\_id, department\_name

from departments;

2.Show all employees with the first name ‘Alexander’.

select employee\_id, first\_name, last\_name, email

from employees

where first\_name LIKE 'Alexander%';

where first\_name = 'Alexander';

3.Show all employees belonging to department 170.

select employee\_id, first\_name, last\_name

from employees

where department\_id = 170;

\*Note:

There are no department 170, can try 110 (or others) instead.

4.Show all employees earning less than 10,000 belonging to department 170, ordering the result from the highest to the lowest salary.

select employee\_id, first\_name, last\_name

from employees

where department\_id = 170 and

salary < 10000

order by salary desc;

\*Note:

There are no department 170, can try 110 (or others) instead.

5.Show all jobs that pay at least 15,000 salary.

Select job\_id, job\_title

from jobs

where min\_salary >= 15000 OR

max\_salary >=15000;

6.List all locations with a street address that has the lucky number “8” in it.

Select location\_id, street\_address, city

from locations

where street\_address LIKE '%8%';

7.List all locations with a post code that ends with “18” or “28” or “98”.

Select location\_id, street\_address, postal\_code, city

from locations

where (postal\_code LIKE '%18') OR

(postal\_code LIKE '%28') OR

(postal\_code LIKE '%98');

8.List all employees that has been employed for between 5 to 8 years.

select employee\_id, first\_name, last\_name, hire\_date, job\_id,

Round((Months\_Between(sysdate, hire\_date)/12),0) as Working\_Years

from employees

where (Months\_Between(sysdate, hire\_date)/12) BETWEEN 5 and 8

order by Working\_Years;

Note:

The query below will show that all employees have been working more than 10 years, change the 5 to 8 to something else to see results.

select employee\_id, first\_name, last\_name, hire\_date, job\_id,

(Months\_Between(sysdate, hire\_date)/12) as Working\_Years

from employees

order by Working\_Years;

**Multiple table queries**

9.List employees working in the state province of California.

select E.employee\_id, E.last\_name, D.department\_name

from employees E, departments D, locations L

where E.department\_id = D.department\_id AND

D.location\_id = L.location\_id AND

state\_province = 'California';

10.List employees working in countries beginning with the letter A.

select C.country\_name, E.employee\_id, E.last\_name, D.department\_name

from employees E, departments D, locations L, countries C

where E.department\_id = D.department\_id AND

D.location\_id = L.location\_id AND

L.country\_id = C.country\_id AND

country\_name LIKE 'A%';

11.List all employees that had worked as a "SALES REPRESENTATIVE" previously (not including the current job).

select E.employee\_id, E.last\_name, E.first\_name, JH.start\_date, JH.end\_date, J.job\_title

from employees E, job\_history JH, jobs J

where E.employee\_id = JH.employee\_id AND

JH.job\_id = J.job\_id AND

UPPER(J.job\_title) = 'SALES REPRESENTATIVE';

Note: Remind students to read Chapter 5 of the SQL Language Reference on Functions; need to use functions in the Assignment

12.Show the salary details for the IT department.

select DISTINCT J.job\_title, J.min\_salary, J.max\_salary

from departments D, employees E, jobs J

where E.job\_id = J.job\_id AND

E.department\_id = d.department\_id AND

D.department\_name = 'IT'

Note: Not many records for IT department, can try another department e.g. 'Marketing'

13.List all employees and their manager (must show manager's name)

select E.employee\_id, E.first\_name, E.last\_name, E.manager\_id, Mgr.first\_name, Mgr.last\_name

from employees E, employees Mgr

where E.manager\_id = Mgr.employee\_id

order by E.employee\_id;

list All MANAGERS and their subordinates - just change the sorting sequence:

select E.employee\_id, E.first\_name, E.last\_name, E.manager\_id, Mgr.first\_name, Mgr.last\_name

from employees E, employees Mgr

where E.manager\_id = Mgr.employee\_id

order by Mgr.employee\_id, E.employee\_id;

14.List all employees that work in the same country.

select C.country\_id, C.country\_name, L.location\_id, E.employee\_id, E.first\_name, E.last\_name

from Countries C, Locations L, Departments D, Employees E

where (C.country\_id = L.country\_id) AND

(L.location\_id = D.location\_id) AND

(D.department\_id = E.department\_id)

order by C.country\_id, L.location\_id;

\*Note:

The above query doesn't work if there is ONE country with ONE location with ONE department having only ONE employee.

(i.e the ONLY employee working in a country, no colleagues...)

To exclude the ONE employee working in ONE country by himself:

select C.country\_id, C.country\_name, L.location\_id, E.employee\_id, E.first\_name, E.last\_name

from Countries C, Locations L, Departments D, Employees E

where (C.country\_id = L.country\_id) AND

(L.location\_id = D.location\_id) AND

(D.department\_id = E.department\_id) AND

(C.country\_id NOT IN (select C.country\_id

from Countries C, Locations L, Departments D, Employees E

where (C.country\_id = L.country\_id) AND

(L.location\_id = D.location\_id) AND

(D.department\_id = E.department\_id)

group by C.country\_id

having count(\*) = 1))

order by C.country\_id, L.location\_id;

The nested select identifies countries that have only ONE employee.

15.How many employees had been a Stock Clerk previously?

Select COUNT(\*) as No\_Of\_Stock\_Clerk\_Previously

from Jobs J, Job\_History JH

where (J.job\_id = JH.job\_id) AND

(J.job\_title = 'Stock Clerk');

16.How many current Stock Clerks are there?

Select COUNT(\*) as No\_Of\_Stock\_Clerk\_Currently

from Jobs J, Employees E

where (J.job\_id = E.job\_id) AND

(J.job\_title = 'Stock Clerk');

17.What is the total salary of all employees in the Marketing department?

select SUM(E.salary) as Total\_Mktg\_Dept\_Salary

from Departments D, Employees E

where (D.department\_id = E.department\_id) AND

(D.department\_name = 'Marketing');

To see the raw data before SUM:

select E.salary

from Departments D, Employees E

where (D.department\_id = E.department\_id) AND

(D.department\_name = 'Marketing');

18.What is the average salary of all the Purchasing Clerk?

Select AVG(E.salary) as Avg\_Purchasing\_Clerk\_Salary

from Jobs J, Employees E

where (J.job\_id = E.job\_id) AND

(J.job\_title = 'Purchasing Clerk');

To see the raw data before AVG:

Select E.salary

from Jobs J, Employees E

where (J.job\_id = E.job\_id) AND

(J.job\_title = 'Purchasing Clerk');

\*\*NOTE:

There are 25 countries listed in the sample database but not all countries have departments.

There are only a total of 27 departments located in Canada, Germany, United Kingdom and United States of America.

select C.country\_name, D.Department\_id, D.Department\_name

from Countries C, Locations L, Departments D

where (C.country\_id = L.country\_id) AND

(L.location\_id = D.location\_id)

order by C.country\_name, D.Department\_id;

If you or students would like to try to see result of your select statements, please change the country names for the queries below.

19.How many employees are there in Singapore?

select COUNT(\*) as No\_Of\_Employees\_In\_Singapore

from Countries C, Locations L, Departments D, Employees E

where (C.country\_name = 'Singapore') AND

(C.country\_id = L.country\_id) AND

(L.location\_id = D.location\_id) AND

(D.department\_id = E.department\_id);

\*Note: There are no departments in 'Singapore' in the database.

20.What is the total salary of each department located in Singapore?

select D.Department\_id, D.Department\_name, SUM(E.salary) as Total\_Department\_Salary

from Countries C, Locations L, Departments D, Employees E

where (C.country\_name = 'Singapore') AND

(C.country\_id = L.country\_id) AND

(L.location\_id = D.location\_id) AND

(D.department\_id = E.department\_id)

group by D.department\_id, D.department\_name;

\*Note: There are no departments in 'Singapore' in the database.

21.What are the departments in Australia that have at least 5 employees?

select D.Department\_id, D.Department\_name, COUNT(\*) as No\_Of\_Employees

from Countries C, Locations L, Departments D, Employees E

where (C.country\_name = 'Australia') AND

(C.country\_id = L.country\_id) AND

(L.location\_id = D.location\_id) AND

(D.department\_id = E.department\_id)

group by D.department\_id, D.Department\_name

having COUNT(\*) >=5;

\*Note: There are no departments in 'Australia' in the database, can try 'United Kingdom' or 'United States of America'

22.How many employees earn more salary than John Russel?

Select COUNT(\*) as "Higher then John Russel"

from Employees E1, Employees Others

where (E1.first\_name = 'John') AND

(E1.last\_name = 'Russel') AND

(Others.salary > E1.salary);

\*Note: There are no 'John Russel' in the database, can try other names to see a result. Example below uses employee 'Tayler Fox'

Select COUNT(\*) as "Higher then Tayler Fox"

from Employees E1, Employees Others

where (E1.first\_name = 'Tayler') AND

(E1.last\_name = 'Fox') AND

(Others.salary > E1.salary);

To see the raw data for verification:

Select E1.first\_name, E1.last\_name, E1.Salary, Others.first\_name, Others.last\_name, Others.salary

from Employees E1, Employees Others

where (E1.first\_name = 'Tayler') AND

(E1.last\_name = 'Fox') AND

(Others.salary >= E1.salary);

23. Identify the employee with the highest salary.

Select employee\_id, first\_name, Last\_name, salary

from Employees

where salary = (Select max(salary)

from employees);

Note: There may be more than ONE employee with the same highest salary

24. Identify the employee for the job that has the highest salary. Include relevant information.

Select employee\_id, first\_name, Last\_name, E.job\_id, J.job\_title, salary

from Employees E, Jobs J

where E.job\_id IN (Select job\_id

from jobs

where max\_salary = (select max(max\_salary)

from jobs))

AND

E.job\_id = J.job\_id;

Note: it may be possible that more than one job\_id can have the same highest max\_salary, hence the use of the IN operator.

In the example below, there are two job\_id with the maximum salary of 16,000.

Select employee\_id, first\_name, Last\_name, E.job\_id, J.job\_title, salary

from Employees E, Jobs J

where E.job\_id IN (Select job\_id

from jobs

where max\_salary = 16000)

AND

E.job\_id = J.job\_id;