**Q.1 From the following tables, write a SQL query to find the first name, last name, department number, and department name for each employee.**

assignment\_1=# select e.first\_name, e.last\_name, e.department\_id, d.department\_name from employees as e join departments as d on e.department\_id = d.department\_id order by department\_id, first\_name;

first\_name | last\_name | department\_id | department\_name

-------------+-------------+---------------+------------------

Jennifer | Whalen | 10 | Administration

Michael | Hartstein | 20 | Marketing

Pat | Fay | 20 | Marketing

Alexander | Khoo | 30 | Purchasing

Den | Raphaely | 30 | Purchasing

Guy | Himuro | 30 | Purchasing

Karen | Colmenares | 30 | Purchasing

Shelli | Baida | 30 | Purchasing

Sigal | Tobias | 30 | Purchasing

**Q.2 From the following tables, write a SQL query to find the first name, last name, department, city, and state province for each employee.**

assignment\_1=# select e.first\_name, e.last\_name, e.department\_id, d.department\_name, l.city, l.state\_province from employees as e join departments as d

assignment\_1-# on e.department\_id = d.department\_id join locations as l on d.location\_id = l.location\_id order by city, first\_name;

first\_name | last\_name | department\_id | department\_name | city | state\_province

-------------+-------------+---------------+------------------+---------------------+----------------

Susan | Mavris | 40 | Human Resources | London |

Hermann | Baer | 70 | Public Relations | Munich | Bavaria

Alberto | Errazuriz | 80 | Sales | OX9 9ZB | Oxford

Allan | McEwen | 80 | Sales | OX9 9ZB | Oxford

Alyssa | Hutton | 80 | Sales | OX9 9ZB | Oxford

Amit | Banda | 80 | Sales | OX9 9ZB | Oxford

Charles | Johnson | 80 | Sales | OX9 9ZB | Oxford

**Q.3 From the following table, write a SQL query to find the first name, last name, salary, and job grade for all employees.**

assignment\_1=# select e.first\_name, e.last\_name, e.salary, j.job\_grade from employees e join jobs j on e.job\_id = j.job\_id order by job\_grade;

first\_name | last\_name | salary | job\_grade

-------------+-------------+----------+-----------

Christopher | Olsen | 8000.00 | A

Nanette | Cambrault | 7500.00 | A

Oliver | Tuvault | 7000.00 | A

Janette | King | 10000.00 | A

Patrick | Sully | 9500.00 | A

Allan | McEwen | 9000.00 | A

Lindsey | Smith | 8000.00 | A

Louise | Doran | 7500.00 | A

**Q.4 From the following tables, write a SQL query to find all those employees who work in department ID 80 or 40. Return first name, last name, department number and department name.**

assignment\_1=# select e.first\_name, e.last\_name,e.department\_id, d.department\_name from employees e join departments d on e.department\_id = d.department\_id where e.department\_id = 80 or e.department\_id = 40;

first\_name | last\_name | department\_id | department\_name

-------------+------------+---------------+-----------------

John | Russell | 80 | Sales

Karen | Partners | 80 | Sales

Alberto | Errazuriz | 80 | Sales

Gerald | Cambrault | 80 | Sales

**Q.5 From the following tables, write a SQL query to find those employees whose first name contains a letter ‘z’. Return first name, last name, department, city, and state province.**

assignment\_1=# select e.first\_name,e.last\_name,d.department\_name,l.city,l.state\_province from employees e join departments d on e.department\_id=d.department\_id join locations l on d.location\_id=l.location\_id where first\_name like '%z%';

first\_name | last\_name | department\_name | city | state\_province

------------+------------+-----------------+---------------------+----------------

Mozhe | Atkinson | Shipping | South San Francisco | California

Hazel | Philtanker | Shipping | South San Francisco | California

Elizabeth | Bates | Sales | OX9 9ZB | Oxford

(3 rows)

**Q.6 From the following table, write a SQL query to find all departments including those without any employees. Return first name, last name, department ID, department name.**

assignment\_1=# select e.first\_name, e.last\_name, d.department\_id, d.department\_name from employees e right join departments d on e.department\_id = d.department\_id;

**Q.7 From the following table, write a SQL query to find those employees who earn less than the employee of ID 182. Return first name, last name and salary.**

assignment\_1=# select first\_name, last\_name, salary from employees where salary < (select salary from employees where employee\_id = 182);

first\_name | last\_name | salary

------------+------------+---------

James | Landry | 2400.00

Steven | Markle | 2200.00

TJ | Olson | 2100.00

Ki | Gee | 2400.00

Hazel | Philtanker | 2200.00

(5 rows)

**Q.8 From the following table, write a SQL query to find the employees and their managers. Return the first name of the employee and manager.**

assignment\_1=# select e.first\_name as Employee\_name, m.first\_name as Manager from employees e join employees m on e.employee\_id = m.manager\_id;

employee\_name | manager

---------------+-------------

Steven | Neena

Steven | Lex

Lex | Alexander

Alexander | Bruce

Alexander | David

Alexander | Valli

**Q.9 From the following tables, write a SQL query to display the department name, city, and state province for each department.**

assignment\_1=# select d.department\_name, l.city, l.state\_province from departments d join locations l on d.location\_id = l.location\_id;

department\_name | city | state\_province

----------------------+---------------------+----------------

Administration | Seattle | Washington

Marketing | Toronto | Ontario

Purchasing | Seattle | Washington

Human Resources | London |

Shipping | South San Francisco | California

**Q.10 From the following tables, write a SQL query to find those employees who have or not any department. Return first name, last name, department ID, department name.**

assignment\_1=# select e.first\_name, e.last\_name, e.department\_id, d.department\_name from employees e left join departments d on e.department\_id = d.department\_id;

first\_name | last\_name | department\_id | department\_name

-------------+-------------+---------------+------------------

Steven | King | 90 | Executive

**Q. 11 From the following table, write a SQL query to find the employees and their managers. These managers do not work under any manager. Return the first name of the employee and manager.**

assignment\_1=# select e.first\_name as employee\_name , w.first\_name as manager from employees e left join employees w on e.manager\_id=w.employee\_id;

employee\_name | manager

---------------+-----------

Steven |

Neena | Steven

Lex | Steven

**Q. 12 From the following tables, write a SQL query to find those employees who work in a department where the employee of last name 'Taylor' works. Return first name, last name and department ID.**

assignment\_1=# select first\_name, last\_name, department\_id from employees where department\_id in (select department\_id from employees where last\_name='Taylor');

first\_name | last\_name | department\_id

-------------+-------------+---------------

Matthew | Weiss | 50

Adam | Fripp | 50

**Q.13 From the following tables, write a SQL query to find those employees who joined between 1st January 1993 and 31 August 1997. Return job title, department name, employee name, and joining date of the job.**

assignment\_1=# select e.first\_name||' '|| e.last\_name as Name, j.job\_title,d.department\_name, h.START\_DATE from employees e join job\_history h on e.employee\_id = h.employee\_id join departments d on d.department\_id = h.department\_id join jobs j on j.job\_id = h.job\_id where START\_DATE>='1993-01-01' and START\_DATE<='1997-08-31';

name | job\_title | department\_name | start\_date

-------------------+--------------------------+-----------------+------------

Neena Kochhar | Accounting Manager | Accounting | 1993-10-28

Lex De Haan | Programmer | IT | 1993-01-13

Jennifer Whalen | Public Accountant | Executive | 1994-07-01

Michael Hartstein | Marketing Representative | Marketing | 1996-02-17

(4 rows)

**Q.14 From the following tables, write a SQL query to find the difference between the maximum salary of the job and salary of the employees. Return job title, employee name, and salary difference.**

assignment\_1=# select e.first\_name||' '|| e.last\_name as name, e.job\_id, j.max\_salary-e.salary as salary\_difference from employees e join jobs j using(job\_id);

name | job\_id | salary\_difference

-------------------+------------+-------------------

Steven King | AD\_PRES | 16000.00

Neena Kochhar | AD\_VP | 13000.00

Lex De Haan | AD\_VP | 13000.00

Alexander Hunold | IT\_PROG | 1000.00

**15. From the following table, write a SQL query to compute the average salary, number of employees received commission in that department. Return department name, average salary and number of employees.**

assignment\_1=# select d.department\_name ,count(d.department\_name) as total\_employees, avg(e.salary) as average\_salary from employees e join departments d using(department\_id) group by d.department\_name;

department\_name | total\_employees | average\_salary

------------------+-----------------+------------------------

Accounting | 2 | 10150.0000000000000000

Purchasing | 6 | 4150.0000000000000000

Shipping | 45 | 3475.5555555555555556

**Q. 16 From the following tables, write a SQL query to compute the difference between maximum salary and salary of all the employees who work in the department of ID 80. Return job title, employee name and salary difference.**

assignment\_1=# select e.first\_name||' '|| e.last\_name as name, j.job\_title, j.max\_salary-e.salary as salary\_difference from employees e join jobs j using(job\_id) where e.department\_id = 80;

name | job\_title | salary\_difference

-------------------+----------------------+-------------------

John Russell | Sales Manager | 6000.00

Karen Partners | Sales Manager | 6500.00

**Q. 17 From the following table, write a SQL query to find the name of the country, city, and departments, which are running there.**

assignment\_1=# select c.country\_name, l.city, d.department\_name from countries c join locations l using(country\_id) join departments d using(location\_id);

country\_name | city | department\_name

--------------------------+---------------------+----------------------

United States of America | Seattle | Administration

Canada | Toronto | Marketing

United States of America | Seattle | Purchasing

**18. From the following tables, write a SQL query to find the department name and the full name (first and last name) of the manager.**

**19. From the following table, write a SQL query to compute the average salary of employees for each job title.**

**20. From the following table, write a SQL query to find those employees who earn $12000 and above. Return employee ID, starting date, end date, job ID and department ID.**