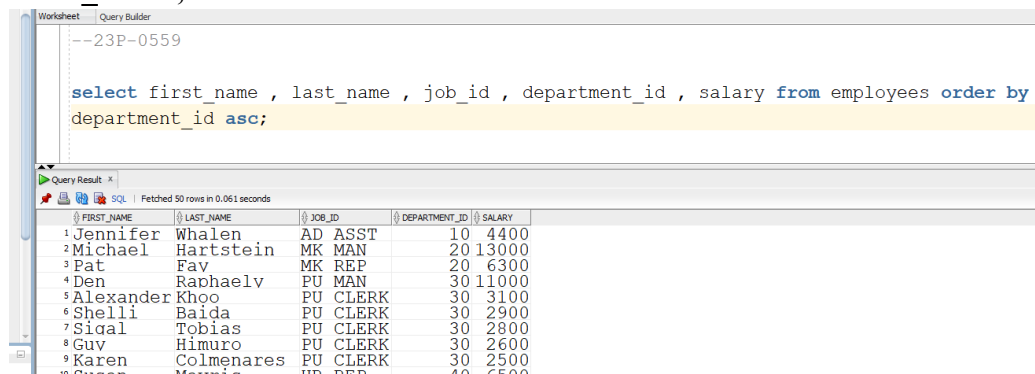# Lab Task 6

Name –   Muhammad Taha

Roll NO – 23P-0559

SECTION – BCS(4A)

Subject – DB Lab

(1)

select first_name , last_name , job_id , department_id , salary from employees order by department_id asc;

```
--23P-0559

select first_name , last_name , job_id , department_id , salary from employees order by
department_id asc;
```
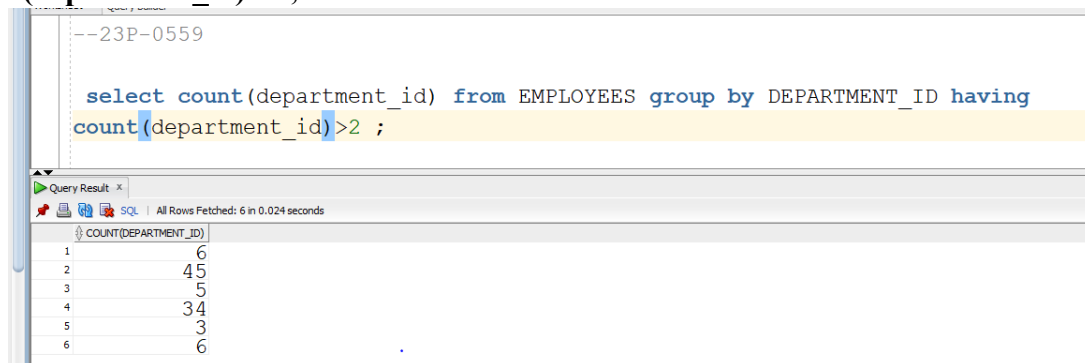
Query Result ×

SQL | Fetched 50 rows in 0.061 seconds

	FIRST_NAME	LAST_NAME	JOB_ID	DEPARTMENT_ID	SALARY
1	Jennifer	Whalen	AD ASST	10	4400
2	Michael	Hartstein	MK MAN	20	13000
3	Pat	Fay	MK REP	20	6300
4	Den	Raphaely	PU MAN	30	11000
5	Alexander	Khoo	PU CLERK	30	3100
6	Shelli	Baida	PU CLERK	30	2900
7	Sigal	Tobias	PU CLERK	30	2800
8	Guy	Himuro	PU CLERK	30	2600
9	Karen	Colmenares	PU CLERK	30	2500
10	Susan	Mavris	HR REP	40	6500

(2)

select count(department_id) from EMPLOYEES group by DEPARTMENT_ID having count(department_id)>2 ;

```
--23P-0559

select count(department_id) from EMPLOYEES group by DEPARTMENT_ID having
count(department_id)>2 ;
```

Query Result ×

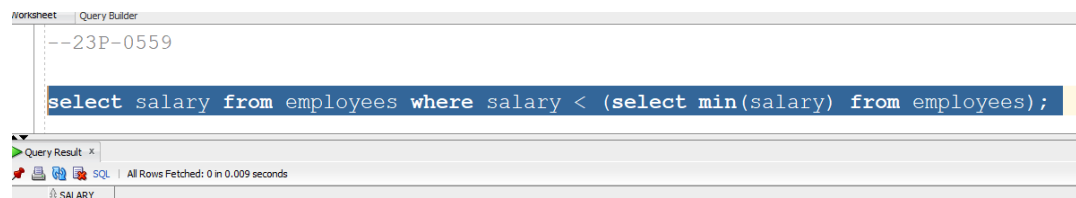SQL | All Rows Fetched: 6 in 0.024 seconds

	COUNT(DEPARTMENT_ID)
1	6
2	45
3	5
4	34
5	3
6	6

(3)

select salary from employees where salary < (select min(salary) from employees);

```
--23P-0559

select salary from employees where salary < (select min(salary) from employees);
```

Query Result ×

SQL | All Rows Fetched: 0 in 0.009 seconds

SALARY

(4)

SELECT e.first_name, e.job_id, e.salary * 12 AS annual_salary, d.department_name, l.city FROM employees e JOIN departments d ON e.department_id = d.department_id JOIN locations l ON d.location_id = l.location_id WHERE e.salary * 12 >= 60000 AND e.JOB_ID!= 'ANALYST';

```sql
SELECT e.first_name, e.job_id, e.salary * 12 AS annual_salary, d.department_name, l.city
FROM employees e JOIN departments d ON e.department_id = d.department_id JOIN locations
l ON d.location_id = l.location_id WHERE e.salary * 12 >= 60000 AND e.JOB_ID!=
'ANALYST';
```

Query Result | Fetched 50 rows in 0.04 seconds

FIRST_NAME	JOB_ID	ANNUAL_SALARY	DEPARTMENT_NAME	CITY
1 Alexander	IT PROG	108000	IT	Southlake
2 Bruce	IT PROG	72000	IT	Southlake
3 Payam	ST MAN	94800	Shipping	South San Francisco
4 Adam	ST MAN	98400	Shipping	South San Francisco
5 Matthew	ST MAN	96000	Shipping	South San Francisco
6 Shanta	ST MAN	78000	Shipping	South San Francisco
7 Kevin	ST MAN	69600	Shipping	South San Francisco
8 William	AC ACCOUNT	99600	Accounting	Seattle
9 Shelley	AC MGR	144096	Accounting	Seattle
10 John	FI ACCOUNT	98400	Finance	Seattle
11 Ismael	FI ACCOUNT	92400	Finance	Seattle
12 Luis	FI ACCOUNT	82800	Finance	Seattle
13 Nancy	FI MGR	144096	Finance	Seattle

(5)

select e.first_name from employees e join EMPLOYEES m on e.employee_id = m.manager_id ;

```sql
select e.first_name from employees e  join EMPLOYEES m on e.employee_id =
m.manager_id ;
```

Query Result | Fetched 50 rows in 0.028 seconds

FIRST_NAME
1 Gerald
2 Gerald
3 Gerald
4 Gerald
5 Gerald
6 Gerald
7 Lex
8 Alberto

(6)

select d.department_id, d.department_name from DEPARTMENTS d join DEPARTMENTS m on d.DEPARTMENT_ID=NULL;

```sql
select d.department_id, d.department_name from DEPARTMENTS d join DEPARTMENTS
m on d.DEPARTMENT_ID=NULL;
```

Query Result | All Rows Fetched: 0 in 0.007 seconds

DEPARTM...	DEPARTM...

(7)

SELECT e.first_name ,e.last_name ,e.salary ,d.department_id from employees e join departments d on e.EMPLOYEE_ID=d.DEPARTMENT_ID;

```
--23P-0559

SELECT e.first_name ,e.last_name ,e.salary ,d.department_id from employees e  join
departments d on e.EMPLOYEE_ID=d.DEPARTMENT_ID
```

Query Result ×
SQL | All Rows Fetched: 11 in 0.008 seconds

FIRST_NAME	LAST_NAME	SALARY	DEPARTMENT_ID
1 Steven	King	24000	100
2 John	Chen	8200	110
3 Matthew	Weiss	8000	120
4 Mozhe	Atkinson	2800	130
5 Joshua	Patel	2500	140
6 Peter	Tucker	10000	150
7 Louise	Doran	7500	160
8 Tayler	Fox	9600	170
9 Winston	Taylor	3200	180
10 Timothy	Gates	2900	190
11 Jennifer	Whalen	4400	200

(8)

select e.first_name ,e.job_id , d.department_name, l.city from employees e join departments
 d on e.DEPARTMENT_ID=d.DEPARTMENT_ID join locations l on
 d.location_id=l.LOCATION_ID
 where l.state_province is null;

```
--23P-0559

select e.first_name ,e.job_id , d.department_name, l.city from employees e join departments
d on e.DEPARTMENT_ID=d.DEPARTMENT_ID join locations l on d.location_id=l.LOCATION_ID
where l.state_province is null;
```

Query Result ×
SQL | All Rows Fetched: 1 in 0.011 seconds

FIRST_NAME	JOB_ID	DEPARTMENT_NAME	CITY
1 Susan	HR_REP	Human Resources	London

(9)

select first_name from employees where FIRST_NAME not in (select first_name from DEPARTMENTS);

```
--23P-0559

select first_name from employees where FIRST_NAME not in (select first_name from
DEPARTMENTS);
```

Query Result ×
SQL | All Rows Fetched: 0 in 0.006 seconds

FIRST_NA...

(10)

select e.first_name , e.last_name from employees e join DEPARTMENTS d on
e.DEPARTMENT_ID=d.DEPARTMENT_ID join locations l on
d.location_id=l.LOCATION_ID where l.COUNTRY_ID='US' and
state_province!='washington';

```
--23P-0559

select e.first_name , e.last_name from employees e  join DEPARTMENTS d on
e.DEPARTMENT_ID=d.DEPARTMENT_ID join locations l on d.location_id=l.LOCATION_ID
where l.COUNTRY_ID='US' and state_province!='washington';
```

Query Result ×
SQL | Fetched 50 rows in 0.021 seconds

FIRST_NAME	LAST_NAME
1 Mozhe	Atkinson
2 David	Austin
3 Shelli	Baida
4 Sarah	Bell
5 Laura	Bissot
6 Alexis	Bull
7 Anthony	Cabrio
8 John	Chen
9 Kelly	Chung

(11)

select e.first_name , e.job_id, d.department_name , l.city from employees e ,departments d ,LOCATIONS l where salary > (select AVG(salary) from employees);

```
--23P-0559

select e.first_name , e.job_id, d.department_name , l.city from employees e ,departments
d ,LOCATIONS l where salary > (select AVG(salary) from employees );
```

Query Result ×
SQL | Fetched 50 rows in 0.014 seconds

FIRST_NAME	JOB_ID	DEPARTMENT_NAME	CITY
1 Steven	AD_PRES	Administration	Beijing
2 Steven	AD_PRES	Administration	Bern
3 Steven	AD_PRES	Administration	Bombay
4 Steven	AD_PRES	Administration	Geneva
5 Steven	AD_PRES	Administration	Hiroshima
6 Steven	AD_PRES	Administration	London
7 Steven	AD_PRES	Administration	Mexico City
8 Steven	AD_PRES	Administration	Munich
9 Steven	AD_PRES	Administration	Oxford

(12)

select e.first_name , e.last_name , e.job_id from employees e join JOB_HISTORY jh on e.EMPLOYEE_ID=jh.EMPLOYEE_ID where e.JOB_ID!=jh.JOB_ID;

```
--23P-0559

select e.first_name , e.last_name , e.job_id from employees e join JOB_HISTORY jh on
e.EMPLOYEE_ID=jh.EMPLOYEE_ID where e.JOB_ID!=jh.JOB_ID;
```

Query Result ×
SQL | All Rows Fetched: 8 in 0.024 seconds

FIRST_NAME	LAST_NAME	JOB_ID
1 Neena	Kochhar	AD_VP
2 Neena	Kochhar	AD_VP
3 Lex	De Haan	AD_VP
4 Den	Raphaely	PU_MAN
5 Payam	Kaufling	ST_MAN
6 Jonathon	Taylor	SA_REP
7 Jennifer	Whalen	AD_ASST
8 Michael	Hartstein	MK_MAN

(13)

select e.first_name ,e.last_name from employees e join EMPLOYEES m on e.EMPLOYEE_ID=m.EMPLOYEE_ID where e.DEPARTMENT_ID=m.DEPARTMENT_ID;

```
--23P-0559

select e.first_name ,e.last_name from employees e join EMPLOYEES m on
e.EMPLOYEE_ID=m.EMPLOYEE_ID where e.DEPARTMENT_ID=m.DEPARTMENT_ID;
```

Query Result ×

SQL | Fetched 50 rows in 0.011 seconds

	FIRST_NAME	LAST_NAME
1	Ellen	Abel
2	Sundar	Ande
3	Mozhe	Atkinson
4	David	Austin
5	Hermann	Baer
6	Shelli	Baida
7	Amit	Banda
8	Elizabeth	Bates
9	Sarah	Bell
10	David	Bernstein
11	Laura	Bissot
12	Harrison	Bloom
13	Alexis	Bull

(14)

SELECT e.first_name, e.last_name, d.department_name, l.city, l.country_id FROM employees e JOIN departments d ON e.department_id = d.department_id JOIN locations l
ON d.location_id = l.location_id WHERE l.country_id = l.country_id;

```
--23P-0559

SELECT e.first_name, e.last_name, d.department_name, l.city, l.country_id FROM
employees e JOIN departments d ON e.department_id = d.department_id JOIN locations l
ON d.location_id = l.location_id WHERE l.country_id = l.country_id;
```

Query Result ×

SQL | Fetched 50 rows in 0.019 seconds

	FIRST_NAME	LAST_NAME	DEPARTMENT_NAME	CITY	COUNTRY_ID
1	Ellen	Abel	Sales	Oxford	UK
2	Sundar	Ande	Sales	Oxford	UK
3	Mozhe	Atkinson	Shipping	South San Francisco	US
4	David	Austin	IT	Southlake	US
5	Hermann	Baer	Public Relations	Munich	DE
6	Shelli	Baida	Purchasing	Seattle	US
7	Amit	Banda	Sales	Oxford	UK

(15)

select count(department_id) from EMPLOYEES group by DEPARTMENT_ID having count(department_id)>5;

```
--23P-0559

select count(department_id) from EMPLOYEES group by DEPARTMENT_ID having
count(department_id)>5;
```

Query Result ×

SQL | All Rows Fetched: 4 in 0.012 seconds

	COUNT(DEPARTMENT_ID)
1	6
2	45
3	34
4	6

(16)

select e.first_name as emp_firstname , e.last_name as emp_lastname , m.first_name as m_firstname, m.last_name as m_lastname from employees e join EMPLOYEES m on e.MANAGER_ID=m.EMPLOYEE_ID;

```
--23P-0559

select e.first_name as emp_firstname , e.last_name as emp_lastname , m.first_name as
m_firstname, m.last_name as m_lastname from employees e join EMPLOYEES m on
e.MANAGER_ID=m.EMPLOYEE_ID;
```

Query Result ×
SQL | Fetched 50 rows in 0.013 seconds

EMP_FIRSTNAME	EMP_LASTNAME	M_FIRSTNAME	M_LASTNAME
1 Eleni	Zlotkev	Steven	King
2 Matthew	Weiss	Steven	King
3 Shanta	Vollman	Steven	King
4 John	Russell	Steven	King
5 Den	Raphaely	Steven	King
6 Karen	Partners	Steven	King
7 Kevin	Mourgos	Steven	King
8 Neena	Kochhar	Steven	King
9 Payam	Kaufling	Steven	King

(17)

SELECT e.first_name, e.last_name, d.department_name, l.city, l.country_id FROM employees e JOIN departments d ON e.department_id = d.department_id JOIN locations l
ON d.location_id = l.location_id;

Worksheet | Query Builder

```
--23P-0559

SELECT e.first_name, e.last_name, d.department_name, l.city, l.country_id FROM
employees e JOIN departments d ON e.department_id = d.department_id JOIN locations l
ON d.location_id = l.location_id;
```

Query Result ×
SQL | Fetched 50 rows in 0.013 seconds

FIRST_NAME	LAST_NAME	DEPARTMENT_NAME	CITY	COUNTRY_ID
1 Ellen	Abel	Sales	Oxford	UK
2 Sundar	Ande	Sales	Oxford	UK
3 Mozhe	Atkinson	Shipping	South San Francisco	US
4 David	Austin	IT	Southlake	US
5 Hermann	Baer	Public Relations	Munich	DE
6 Shelli	Baida	Purchasing	Seattle	US
7 Amit	Banda	Sales	Oxford	UK
8 Elizabeth	Bates	Sales	Oxford	UK
9 Sarah	Bell	Shipping	South San Francisco	US
10 David	Bernstein	Sales	Oxford	UK
11 Laura	Bissot	Shipping	South San Francisco	US
12 Harrison	Bloom	Sales	Oxford	UK

(18)

select e.first_name, e.last_name , e.salary ,e.department_id from employees e join (select department_id ,avg(salary) as AVG_salary from employees group by department_id) d_avg on e.department_id = d_avg.department_id where e.salary > d_avg.AVG_salary and e.salary <(select max(salary) from employees);

```sql
select e.first_name, e.last_name , e.salary ,e.department_id from employees e join
( select department_id ,avg(salary) as AVG_salary from employees group by
department_id ) d_avg on e.department_id = d_avg.department_id where e.salary >
d_avg.AVG_salary and e.salary <( select max(salary) from employees);
```

Query Result ×

SQL | All Rows Fetched: 37 in 0.034 seconds

	FIRST_NAME	LAST_NAME	SALARY	DEPARTMENT_ID
1	Daniel	Faviet	9000	100
2	Nancy	Greenberg	12008	100
3	Den	Raphaely	11000	30
4	Michael	Hartstein	13000	20
5	Shelley	Higgins	12008	110
6	Britney	Everett	3900	50
7	Sarah	Bell	4000	50
8	Jennifer	Dilly	3600	50

(19)

SELECT e.first_name, e.last_name, e.job_id, d.department_name FROM employees e
JOIN job_history jh ON e.employee_id = jh.employee_id JOIN departments d ON
d.department_id = jh.department_id WHERE e.employee_id IN (SELECT employee_id
FROM job_history GROUP BY employee_id HAVING COUNT(DISTINCT
department_id) > 1) ORDER BY e.last_name, e.first_name;

```sql
SELECT e.first_name, e.last_name, e.job_id, d.department_name FROM employees e JOIN
job_history jh ON e.employee_id = jh.employee_id JOIN departments d ON
d.department_id = jh.department_id WHERE e.employee_id IN ( SELECT employee_id
FROM job_history GROUP BY employee_id HAVING COUNT(DISTINCT department_id) > 1 )
ORDER BY e.last_name, e.first_name;
```

Query Result ×

SQL | All Rows Fetched: 0 in 0.015 seconds

FIRST_NA...	LAST_NAME	JOB_ID	DEPARTM...

(20)

select e.employee_id , e.first_name ||' '|| e.last_name "Name" from EMPLOYEES e
  join JOB_HISTORY jh on e.employee_id = jh.employee_id where jh.employee_id in (
  select employee_id from JOB_HISTORY jh2
  join DEPARTMENTS d2 on jh2.department_id = d2.department_id
  join LOCATIONS l2 on d2.location_id = l2.location_id
  join COUNTRIES c2 on l2.country_id = c2.country_id
  GROUP BY jh2.employee_id HAVING COUNT(DISTINCT c2.region_id) > 1) ;

```
--23P-0559

select e.employee_id , e.first_name ||' '|| e.last_name "Name" from EMPLOYEES e
    join JOB_HISTORY jh on e.employee_id = jh.employee_id where jh.employee_id in (
    select employee_id from JOB_HISTORY jh2
    join DEPARTMENTS d2 on jh2.department_id = d2.department_id
    join LOCATIONS l2 on d2.location_id = l2.location_id
    join COUNTRIES c2 on l2.country_id = c2.country_id
    GROUP BY jh2.employee_id HAVING COUNT(DISTINCT c2.region_id) > 1) ;
```

Query Result ×

SQL | All Rows Fetched: 0 in 0.031 seconds

EMPLOYE...	Name

(21)

**SELECT e.first_name, e.last_name, l.state_province AS region FROM employees e
JOIN
departments d ON e.department_id = d.department_id JOIN locations l ON
d.location_id =
l.location_id;**

```
--23P-0559

SELECT e.first_name, e.last_name, l.state_province AS region FROM employees e JOIN
departments d ON e.department_id = d.department_id JOIN locations l ON d.location_id =
l.location_id;
```

Query Result ×

SQL | Fetched 50 rows in 0.012 seconds

	FIRST_NAME	LAST_NAME	REGION
1	Ellen	Abel	Oxford
2	Sundar	Ande	Oxford
3	Mozhe	Atkinson	California
4	David	Austin	Texas
5	Hermann	Baer	Bavaria
6	Shelli	Baida	Washington

(22)

**SELECT e.first_name, e.last_name, e.department_id FROM employees e JOIN
departments d ON e.department_id = d.department_id GROUP BY e.last_name,
e.first_name, e.department_id HAVING COUNT(e.department_id) > 1;**

```
--23P-0559

SELECT e.first_name, e.last_name, e.department_id FROM employees e JOIN departments
d ON e.department_id = d.department_id GROUP BY e.last_name, e.first_name,
e.department_id HAVING COUNT( e.department_id) > 1;
```
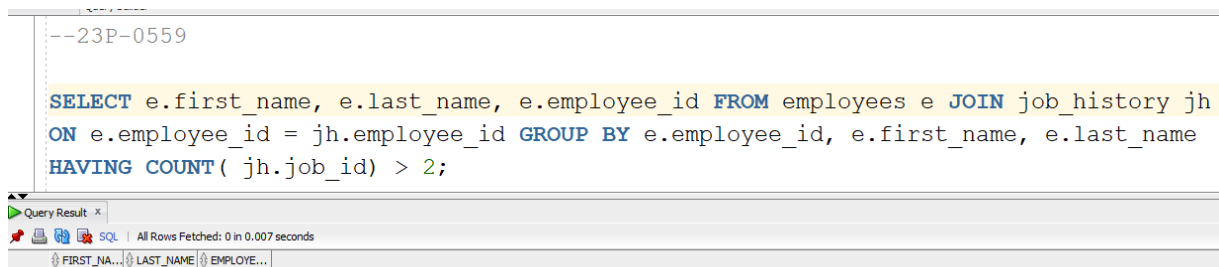
Query Result ×

SQL | All Rows Fetched: 0 in 0.008 seconds

FIRST_NA...	LAST_NAME	DEPARTM...

(23)

SELECT e.first_name, e.last_name, e.employee_id FROM employees e JOIN job_history jh
ON e.employee_id = jh.employee_id GROUP BY e.employee_id, e.first_name, e.last_name
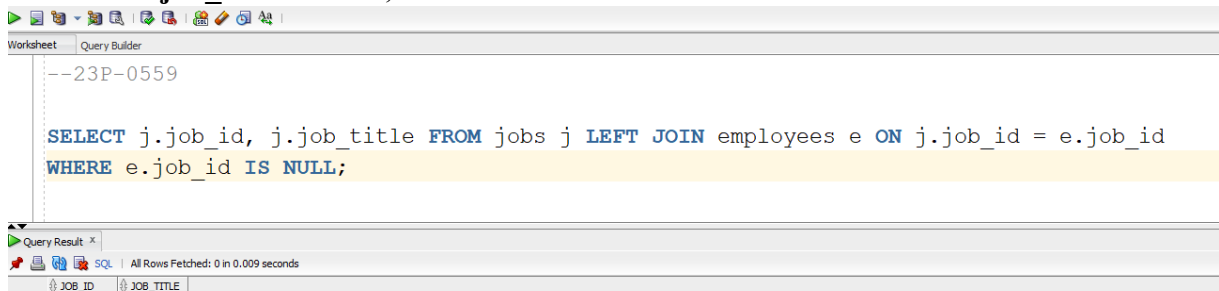**HAVING COUNT(jh.job_id) > 2;**

```
--23P-0559

SELECT e.first_name, e.last_name, e.employee_id FROM employees e JOIN job_history jh
ON e.employee_id = jh.employee_id GROUP BY e.employee_id, e.first_name, e.last_name
HAVING COUNT( jh.job_id) > 2;
```

Query Result ×

SQL | All Rows Fetched: 0 in 0.007 seconds

FIRST_NA...	LAST_NAME	EMPLOYE...

(24)

SELECT j.job_id, j.job_title FROM jobs j LEFT JOIN employees e ON j.job_id = e.job_id
WHERE e.job_id IS NULL;

Worksheet   Query Builder

```
--23P-0559

SELECT j.job_id, j.job_title FROM jobs j LEFT JOIN employees e ON j.job_id = e.job_id
WHERE e.job_id IS NULL;
```

Query Result ×

SQL | All Rows Fetched: 0 in 0.009 seconds

JOB_ID	JOB_TITLE

(25)

SELECT D.DEPARTMENT_NAME AS Departments, E.First_Name AS Employee,
E.Salary AS Salary
FROM Employees E
INNER JOIN Departments D ON E.DEPARTMENT_ID = D.DEPARTMENT_ID
WHERE (SELECT COUNT(DISTINCT Salary) FROM Employees
**   WHERE DEPARTMENT_ID = E.DEPARTMENT_ID AND Salary > E.Salary) < 3**
ORDER BY E.DEPARTMENT_ID, E.Salary DESC;

```
--23P-0559

select e.employee_id , e.first_name ||' '|| e.last_name "Name" from EMPLOYEES e
    join JOB_HISTORY jh on e.employee_id = jh.employee_id where jh.employee_id in (
    select employee_id from JOB_HISTORY jh2
    join DEPARTMENTS d2 on jh2.department_id = d2.department_id
    join LOCATIONS l2 on d2.location_id = l2.location_id
    join COUNTRIES c2 on l2.country_id = c2.country_id
    GROUP BY jh2.employee_id HAVING COUNT(DISTINCT c2.region_id) > 1) ;
```

Query Result ×

SQL | All Rows Fetched: 0 in 0.031 seconds

EMPLOYE...	Name