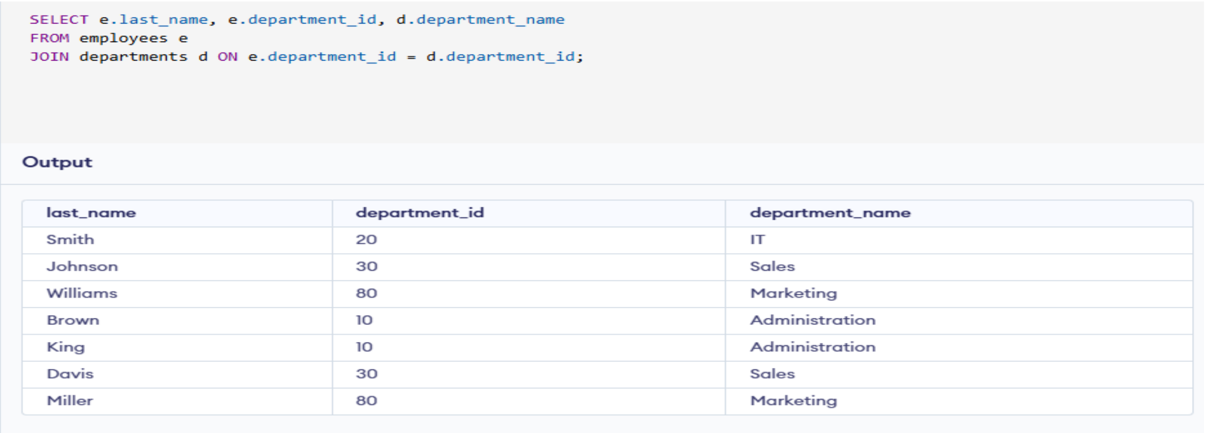
EXERCISE-7

1. Write a query to display the last name, department number, and department name for all employees.

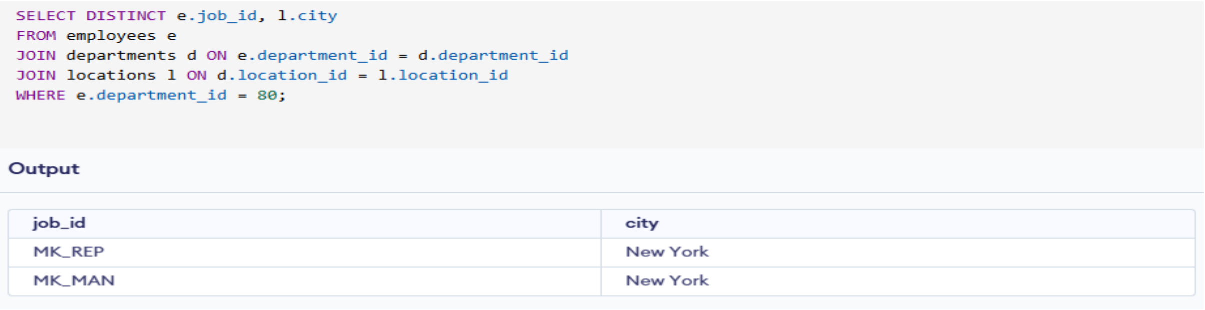


```
SELECT e.last_name, e.department_id, d.department_name
FROM employees e
JOIN departments d ON e.department_id = d.department_id;
```

Output

last_name	department_id	department_name
Smith	20	IT
Johnson	30	Sales
Williams	80	Marketing
Brown	10	Administration
King	10	Administration
Davis	30	Sales
Miller	80	Marketing

2. Create a unique listing of all jobs that are in department 80. Include the location of the department in the output.

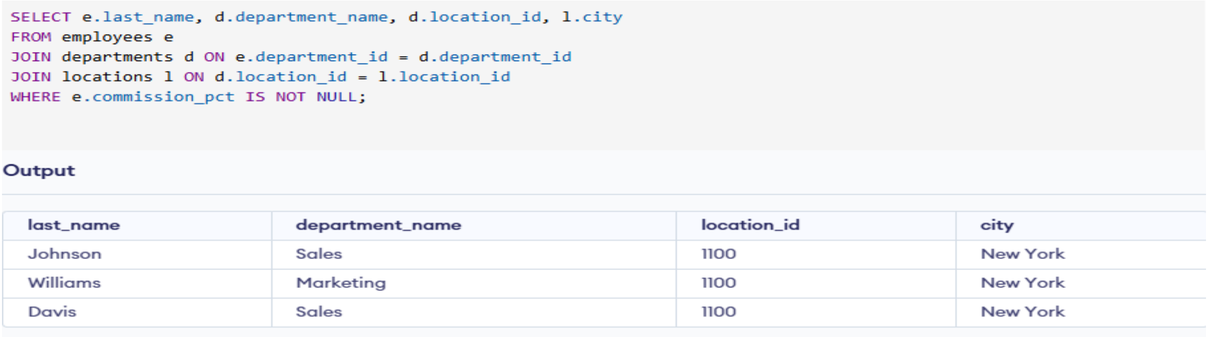


```
SELECT DISTINCT e.job_id, l.city
FROM employees e
JOIN departments d ON e.department_id = d.department_id
JOIN locations l ON d.location_id = l.location_id
WHERE e.department_id = 80;
```

Output

job_id	city
MK_REP	New York
MK_MAN	New York

3.Write a query to display the employee last name, department name, location ID, and city of all employees who earn a commission.

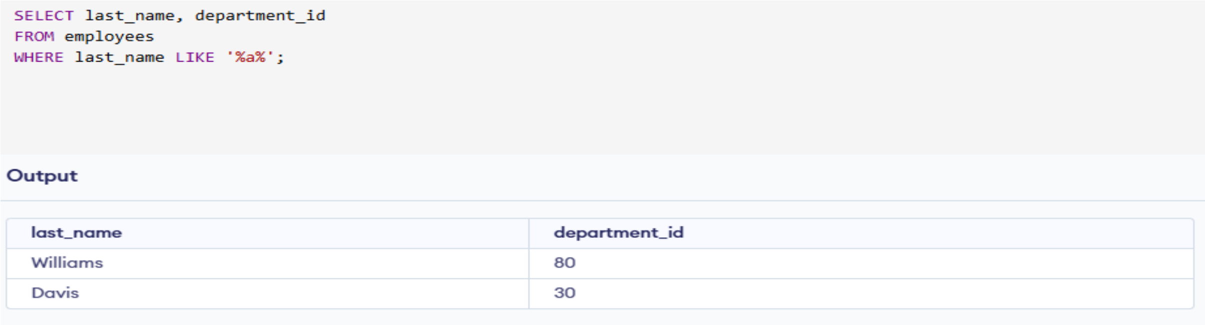


```
SELECT e.last_name, d.department_name, d.location_id, l.city
FROM employees e
JOIN departments d ON e.department_id = d.department_id
JOIN locations l ON d.location_id = l.location_id
WHERE e.commission_pct IS NOT NULL;
```

Output

last_name	department_name	location_id	city
Johnson	Sales	1100	New York
Williams	Marketing	1100	New York
Davis	Sales	1100	New York

4.Display the employee last name and department name for all employees who have an a(lowercase) in their last names.

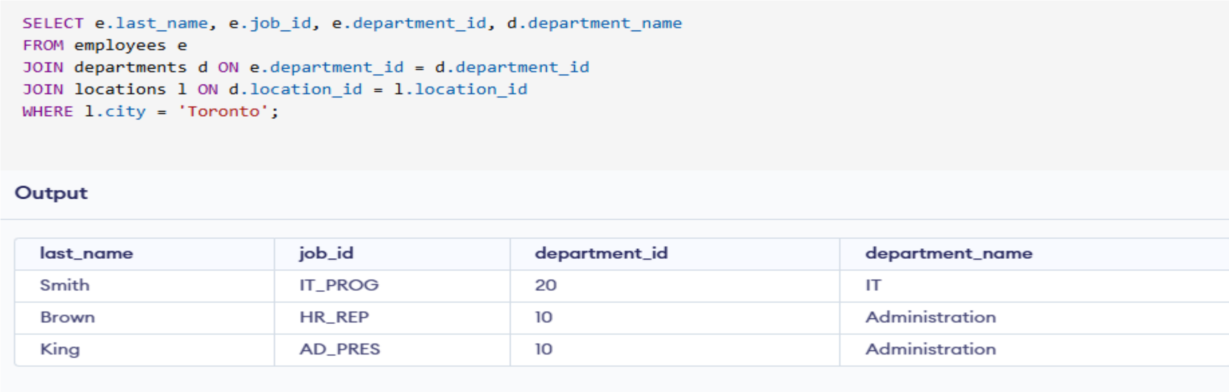


```
SELECT last_name, department_id
FROM employees
WHERE last_name LIKE '%a%';
```

Output

last_name	department_id
Williams	80
Davis	30

5. Write a query to display the last name, job, department number, and department name for all employees who work in Toronto.

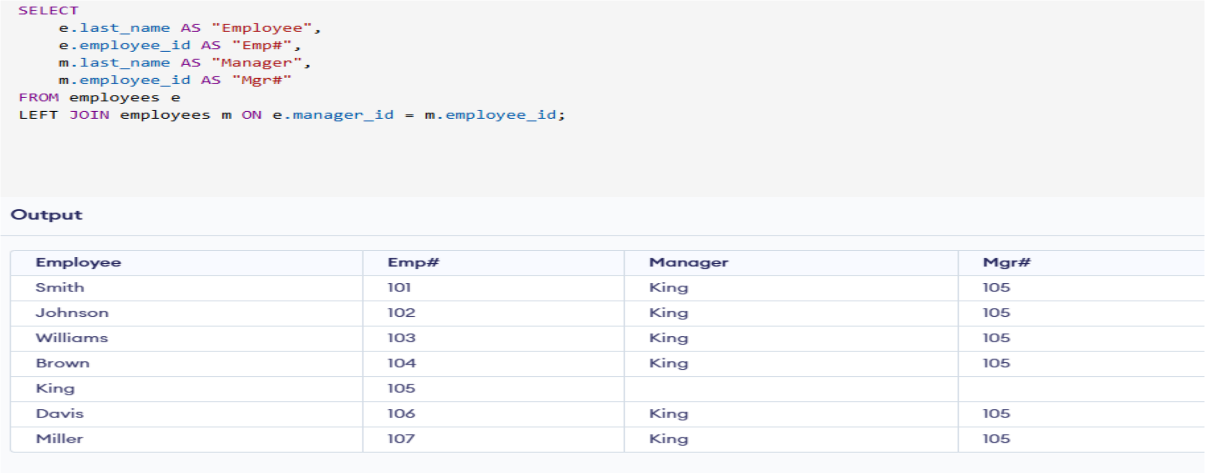


```
SELECT e.last_name, e.job_id, e.department_id, d.department_name
FROM employees e
JOIN departments d ON e.department_id = d.department_id
JOIN locations l ON d.location_id = l.location_id
WHERE l.city = 'Toronto';
```

Output

last_name	job_id	department_id	department_name
Smith	IT_PROG	20	IT
Brown	HR_REP	10	Administration
King	AD_PRES	10	Administration

6. Display the employee last name and employee number along with their manager’s last name and manager number. Label the columns Employee, Emp#, Manager, and Mgr#, Respectively.

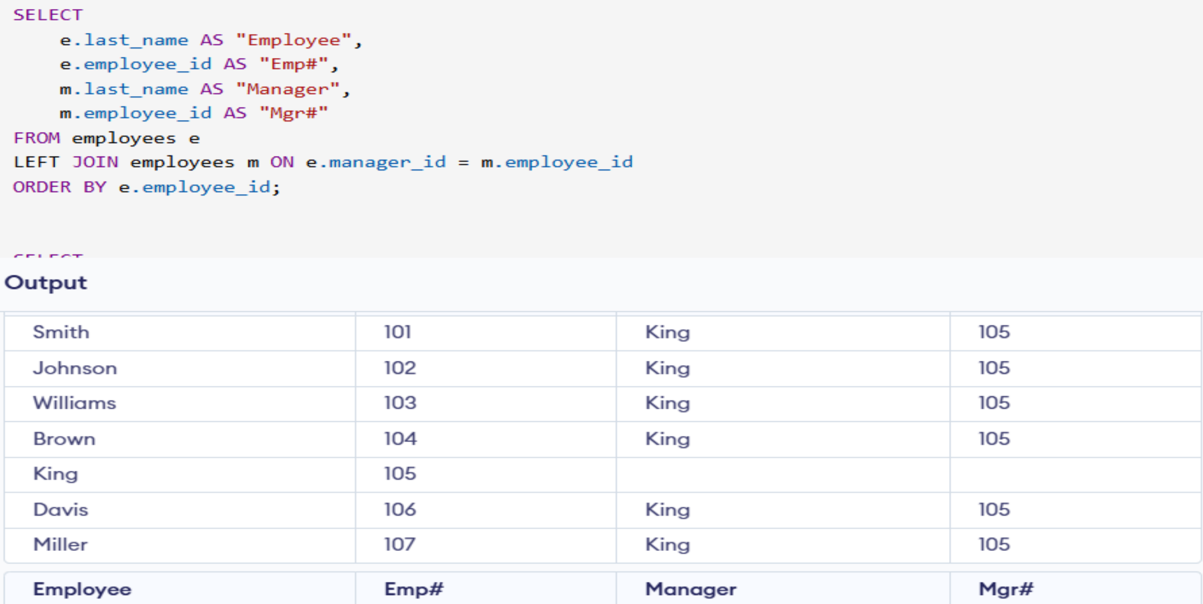


```
SELECT
    e.last_name AS "Employee",
    e.employee_id AS "Emp#",
    m.last_name AS "Manager",
    m.employee_id AS "Mgr#"
FROM employees e
LEFT JOIN employees m ON e.manager_id = m.employee_id;
```

Output

Employee	Emp#	Manager	Mgr#
Smith	101	King	105
Johnson	102	King	105
Williams	103	King	105
Brown	104	King	105
King	105		
Davis	106	King	105
Miller	107	King	105

7. Modify lab4_6.sql to display all employees including King, who has no manager. Order the results by the employee number.

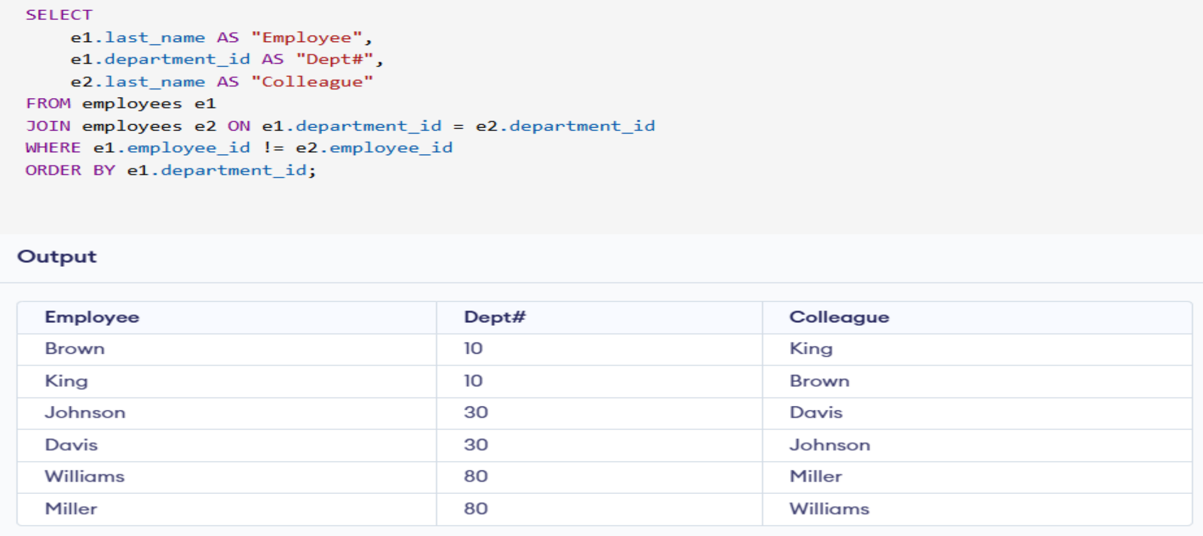


```
SELECT
    e.last_name AS "Employee",
    e.employee_id AS "Emp#",
    m.last_name AS "Manager",
    m.employee_id AS "Mgr#"
FROM employees e
LEFT JOIN employees m ON e.manager_id = m.employee_id
ORDER BY e.employee_id;
```

Output

Employee	Emp#	Manager	Mgr#
Smith	101	King	105
Johnson	102	King	105
Williams	103	King	105
Brown	104	King	105
King	105		
Davis	106	King	105
Miller	107	King	105

8. Create a query that displays employee last names, department numbers, and all the employees who work in the same department as a given employee. Give each column an appropriate label

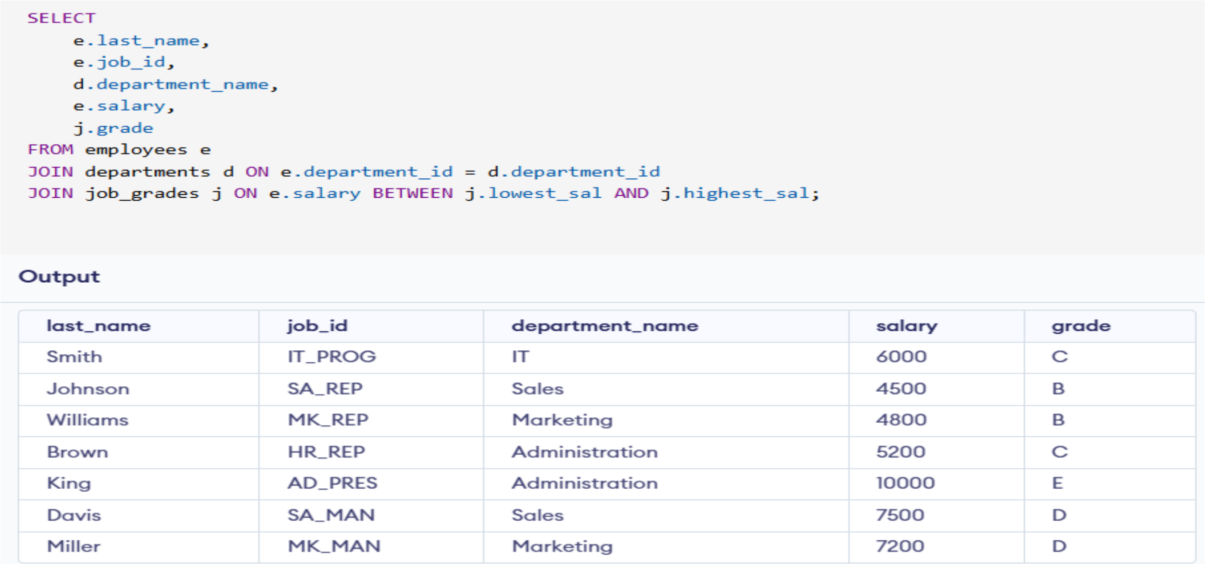


```
SELECT
    e1.last_name AS "Employee",
    e1.department_id AS "Dept#",
    e2.last_name AS "Colleague"
FROM employees e1
JOIN employees e2 ON e1.department_id = e2.department_id
WHERE e1.employee_id != e2.employee_id
ORDER BY e1.department_id;
```

Output

Employee	Dept#	Colleague
Brown	10	King
King	10	Brown
Johnson	30	Davis
Davis	30	Johnson
Williams	80	Miller
Miller	80	Williams

9. Show the structure of the JOB_GRADES table. Create a query that displays the name, job,department name, salary, and grade for all employees

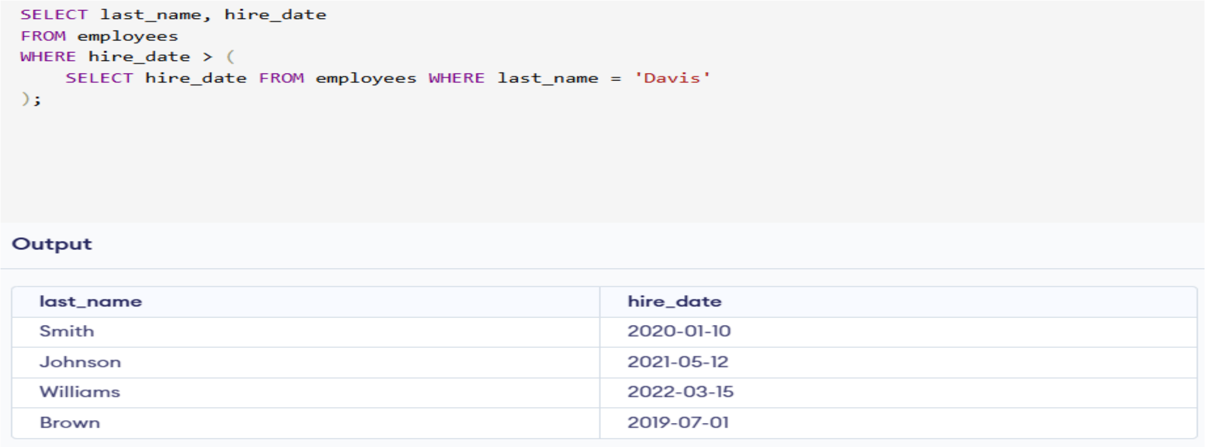


```
SELECT
    e.last_name,
    e.job_id,
    d.department_name,
    e.salary,
    j.grade
FROM employees e
JOIN departments d ON e.department_id = d.department_id
JOIN job_grades j ON e.salary BETWEEN j.lowest_sal AND j.highest_sal;
```

Output

last_name	job_id	department_name	salary	grade
Smith	IT_PROG	IT	6000	C
Johnson	SA_REP	Sales	4500	B
Williams	MK_REP	Marketing	4800	B
Brown	HR_REP	Administration	5200	C
King	AD_PRES	Administration	10000	E
Davis	SA_MAN	Sales	7500	D
Miller	MK_MAN	Marketing	7200	D

10. Create a query to display the name and hire date of any employee hired after employee Davies.

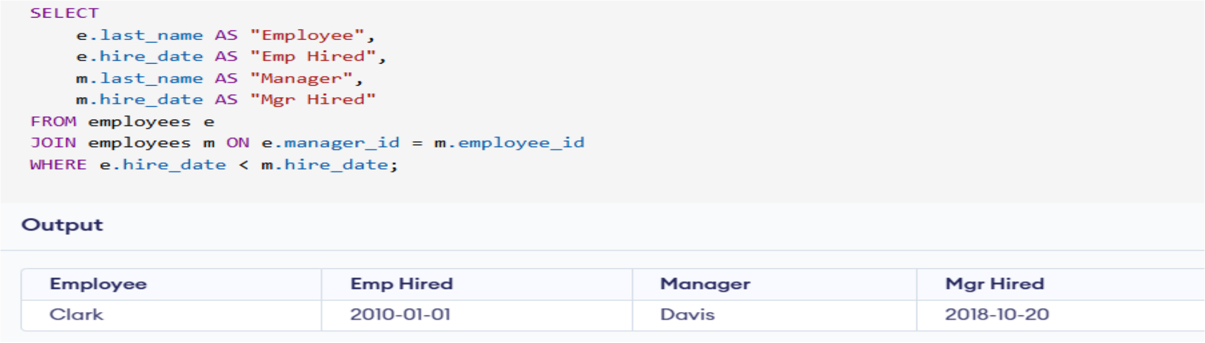


```
SELECT last_name, hire_date
FROM employees
WHERE hire_date > (
    SELECT hire_date FROM employees WHERE last_name = 'Davis'
);
```

Output

last_name	hire_date
Smith	2020-01-10
Johnson	2021-05-12
Williams	2022-03-15
Brown	2019-07-01

11. Display the names and hire dates for all employees who were hired before their managers,along with their manager’s names and hire dates. Label the columns Employee, Emp Hired, Manager,and Mgr Hired, respectively.



```
SELECT
    e.last_name AS "Employee",
    e.hire_date AS "Emp Hired",
    m.last_name AS "Manager",
    m.hire_date AS "Mgr Hired"
FROM employees e
JOIN employees m ON e.manager_id = m.employee_id
WHERE e.hire_date < m.hire_date;
```

Output

Employee	Emp Hired	Manager	Mgr Hired
Clark	2010-01-01	Davis	2018-10-20