

Ex.No.: 7		USING SET OPERATORS
Date:	28/8/24	

EMPLOYEE_ID	FIRST_NAME	LAST_NAME	EMAIL	PHONE_NUMBER	HIRE_DATE	JOB_ID	SALARY	COMMISSION_PCT	MANAGER_ID	DEPARTMENT_ID
101	John	Austin	jaustin@example.com	123-456-7890	01/01/2022	IT_PROG	5000	.23	100	60
102	Betty	Smith	bsmith@example.com	123-456-7891	02/15/2023	HR_REP	4500	.2	100	60
103	Ralph	Jones	rkjones@example.com	123-456-7892	05/20/2021	IT_PROG	4800	.05	101	70
104	Chad	Davis	cdavis@example.com	123-456-7893	09/10/2020	SALES	5300	.13	102	80
105	Audrey	Austin	aaustin@example.com	123-456-7894	03/23/2019	HR_REP	3000	.15	100	60
106	Alice	Brown	abrown@example.com	123-456-7895	10/11/2024	IT_PROG	5500	-	101	50
176	Susan	Martinez	smartinez@example.com	555-123-4567	03/05/1999	SALES_REP	9000	.05	102	20
107	Paula	Roberts	proberts@example.com	555-456-7890	07/20/1998	SALES_REP	9500	.04	102	80
108	Karen	Adams	kadams@example.com	555-987-6543	05/10/1999	STOCK_CLERK	8500	-	101	30
109	Mark	Johnson	mjohnson@example.com	555-345-6789	12/15/1998	HR_REP	7800	-	100	60
110	Alice	Baker	abaker@example.com	555-555-1234	03/10/1998	IT_PROG	6200	-	102	60
111	George	Harris	gharris@example.com	555-555-5678	04/15/1998	HR_REP	5800	-	101	30
112	Michael	Ross	mross@example.com	555-555-9012	03/25/1998	SALES	5000	.02	103	80
113	David	Williams	dwilliams@example.com	555-555-1212	06/15/1994	HR_REP	7000	-	101	50
114	Sarah	Thompson	sthompson@example.com	555-555-3434	07/10/2000	IT_PROG	8000	-	-	70
115	James	Martinez	martinez@example.com	555-555-5656	08/20/2002	SALES_REP	12000	.05	102	80
116	Laura	Gomez	lgomez@example.com	555-555-7878	09/25/2005	SALES_REP	9000	.03	102	80
117	Kevin	Clark	kclark@example.com	555-555-9090	10/10/2007	FIN_ANALYST	7500	-	101	50
118	Oliver	Acevedo	oacevedo@example.com	555-555-1111	11/11/2010	IT_PROG	8500	-	101	60
119	Ethan	Young	eyoung@example.com	555-555-2323	12/12/2011	SALES_REP	6000	.02	102	80
120	David	Williams	dwilliams@example.com	987-654-3210	10/01/2023	IT_PROG	13000	-	103	50

DEPT_ID	DEPT_NAME	MANAGER_ID	LOCATION_ID
50	IT	101	1
60	HR	102	5
80	Finance	103	3
80	Finance	101	4
60	HR	102	5
50	IT	103	6

LOCATION_ID	ST_ADDR	POSTAL_CODE	CITY	STATE_PROVINCE	COUNTRY_ID
1	123 Main St	12345	Los Angeles	California	US
2	456 Elm St	23456	New York	New York	US
3	789 Oak St	34567	Chicago	Illinois	US
4	456 Birch St	98764	New York	NY	US
5	789 Cedar Ave	54322	San Francisco	CA	US
6	789 Oak St	67890	Toronto	ON	CA
7	234 Walnut St	98766	London	ENG	GB
8	111 Chestnut St	55556	Paris	ILE	FR

EMPLOYEE_ID	START_DATE	END_DATE	JOB_ID	DEPARTMENT_ID
101	01/01/2010	12/31/2015	IT_PROG	60
102	01/01/2012	12/31/2016	HR_REP	50
103	01/01/2014	12/31/2019	IT_PROG	60

1. The HR department needs a list of department IDs for departments that do not contain the job ID ST_CLERK. Use set operators to create this report.

```
SELECT DISTINCT DEPT_ID FROM DEPARTMENT MINUS SELECT DISTINCT DEPARTMENT_ID  
FROM EMPLOYEES WHERE job_id = 'ST_CLERK';
```

DEPT_ID
1
2
3

2. The HR department needs a list of countries that have no departments located in them. Display the country ID and the name of the countries. Use set operators to create this report

```
SELECT DISTINCT COUNTRY_ID FROM LOCATION MINUS SELECT DISTINCT l.COUNTRY_ID  
FROM LOCATION l JOIN DEPARTMENT d ON l.LOCATION_ID = d.LOCATION_ID;
```

COUNTRY_ID
FR
GB

3. Produce a list of jobs for departments 10, 50, and 20, in that order. Display job ID and department ID using set operators.

```
SELECT JOB_ID, DEPARTMENT_ID FROM EMPLOYEES WHERE DEPARTMENT_ID = 10 UNION  
ALL SELECT JOB_ID, DEPARTMENT_ID FROM EMPLOYEES WHERE DEPARTMENT_ID = 50  
UNION ALL SELECT JOB_ID, DEPARTMENT_ID FROM EMPLOYEES WHERE DEPARTMENT_ID =  
20;
```

JOB_ID	DEPARTMENT_ID
MGR	10
IT_PROG	50
SALES_REP	50
HR_REP	50
FIN_ANALYST	50
IT_PROG	50
SALES_REP	20

4. Create a report that lists the employee IDs and job IDs of those employees who currently have a job title that is the same as their job title when they were initially hired by the company (that is, they changed jobs but have now gone back to doing their original job).

```
SELECT EMPLOYEE_ID, JOB_ID FROM EMPLOYEES INTERSECT SELECT EMPLOYEE_ID, JOB_ID
FROM JOB_HISTORY;
```

EMPLOYEE_ID	JOB_ID
101	IT_PROG
102	HR_REP
103	IT_PROG

5. The HR department needs a report with the following specifications:

- Last name and department ID of all the employees from the EMPLOYEES table, regardless of whether or not they belong to a department.

```
SELECT LAST_NAME,DEPARTMENT_ID FROM EMPLOYEES UNION ALL SELECT
DEPT_NAME,DEPT_ID FROM DEPARTMENT;
```

LAST_NAME	DEPARTMENT_ID
Austin	60
Smith	60
Jones	70
Davis	80
Austin	60
Brown	50
Smith	50
Martinez	20
Roberts	80
Adams	30
Johnson	60
Baker	60
Harris	30
Ross	80
Williams	50
Thompson	70
Martinez	80
Gomez	80
Clark	50
Acevedo	60
Young	80
Williams	50
Green	10
IT	50
HR	60
Finance	80
Finance	80
HR	60
IT	50