

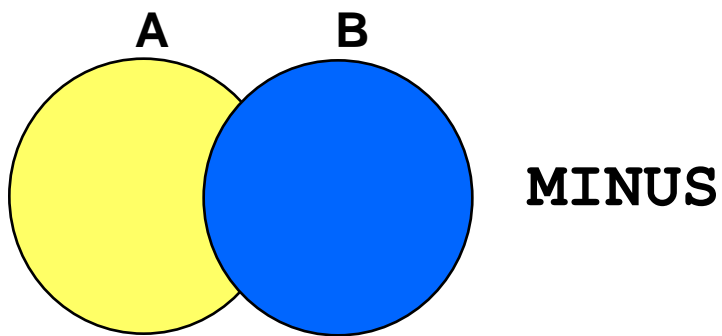
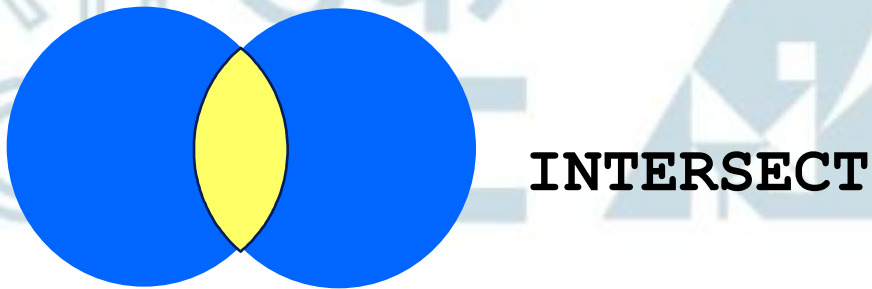
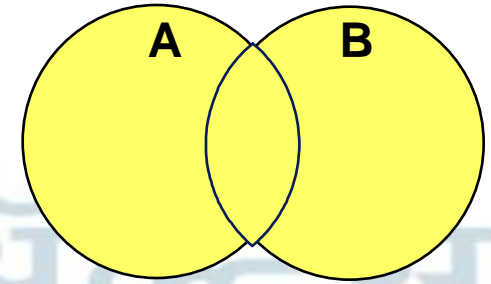
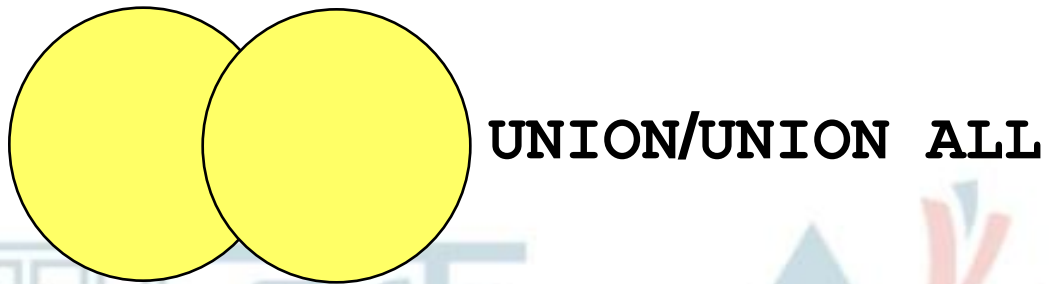
# The Set Operators & Pseudocolumns

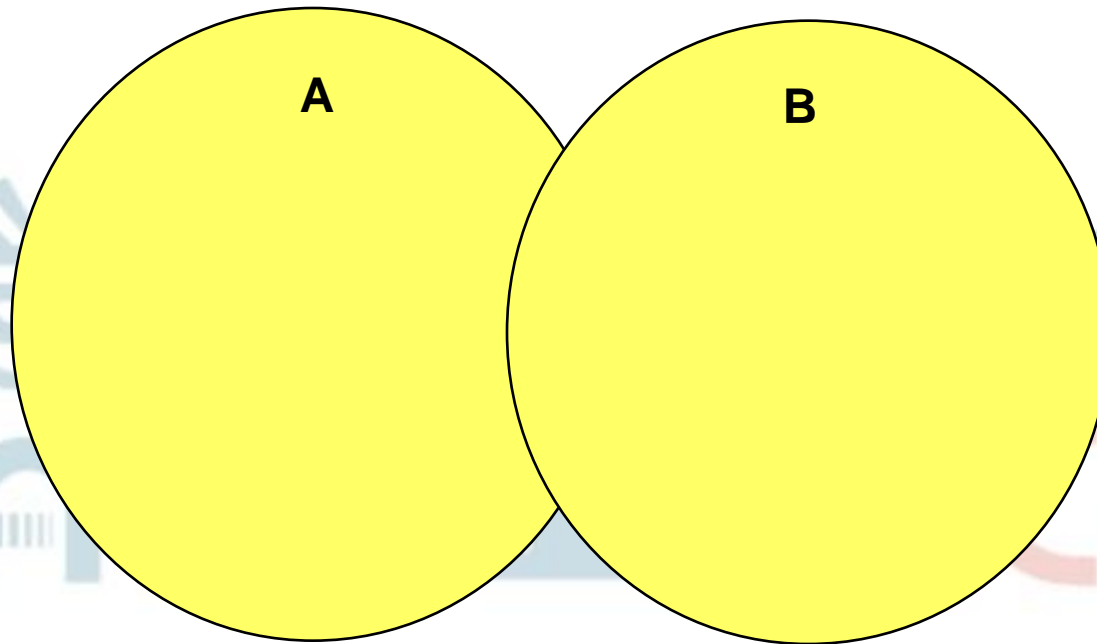
- Jayendra Khatod

**After completing this lesson, you should be able to do the following:**

- **Describe SET operators**
- **Use a SET operator to combine multiple queries into a single query**
- **Control the order of rows returned**
- **DUAL table and its importance**
- **Pseudo Columns**

# The SET Operators





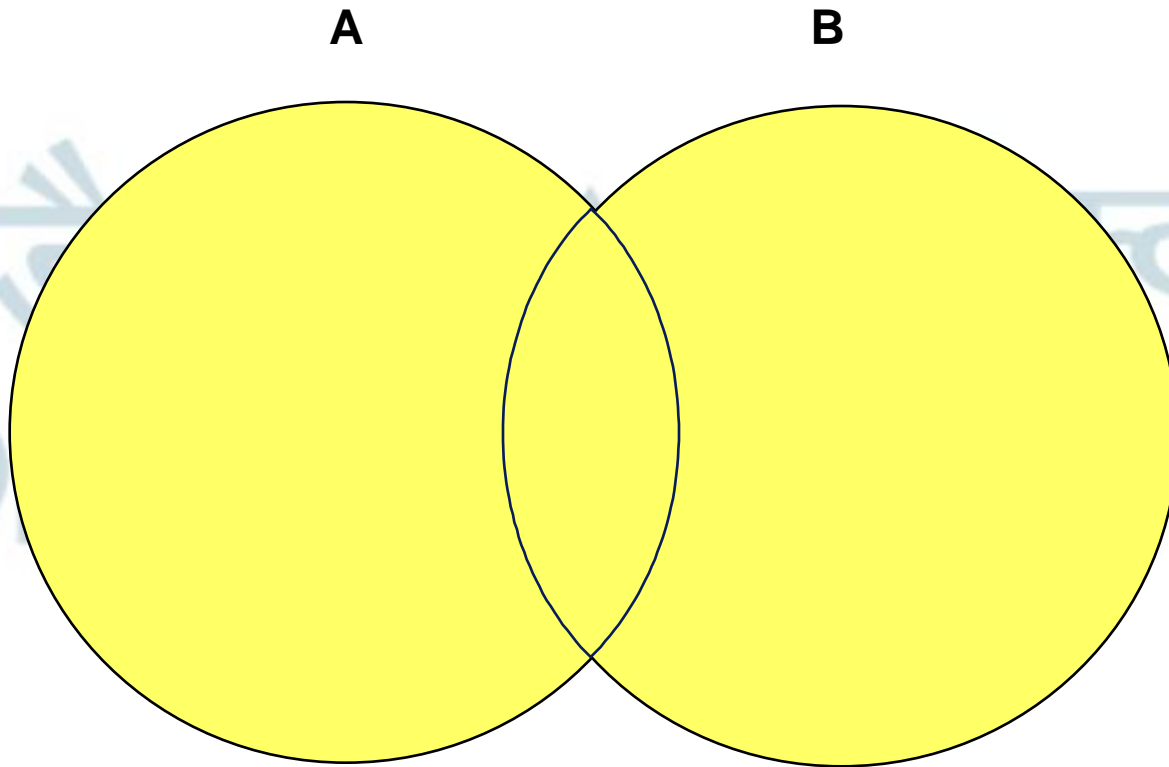
**The UNION operator returns results from both queries after eliminating duplications.**

**Display the current and previous job details of all employees. Display each employee only once.**

```
SELECT employee_id, job_id
FROM   employees
UNION
SELECT employee_id, job_id
FROM   job_history;
```

EMPLOYEE_ID	JOB_ID
100	AD_PRES
101	AC_ACCOUNT
...	
200	AC_ACCOUNT
200	AD_ASST
...	
205	AC_MGR
206	AC_ACCOUNT

# The UNION ALL Operator



**The UNION ALL operator returns results from both queries, including all duplications.**

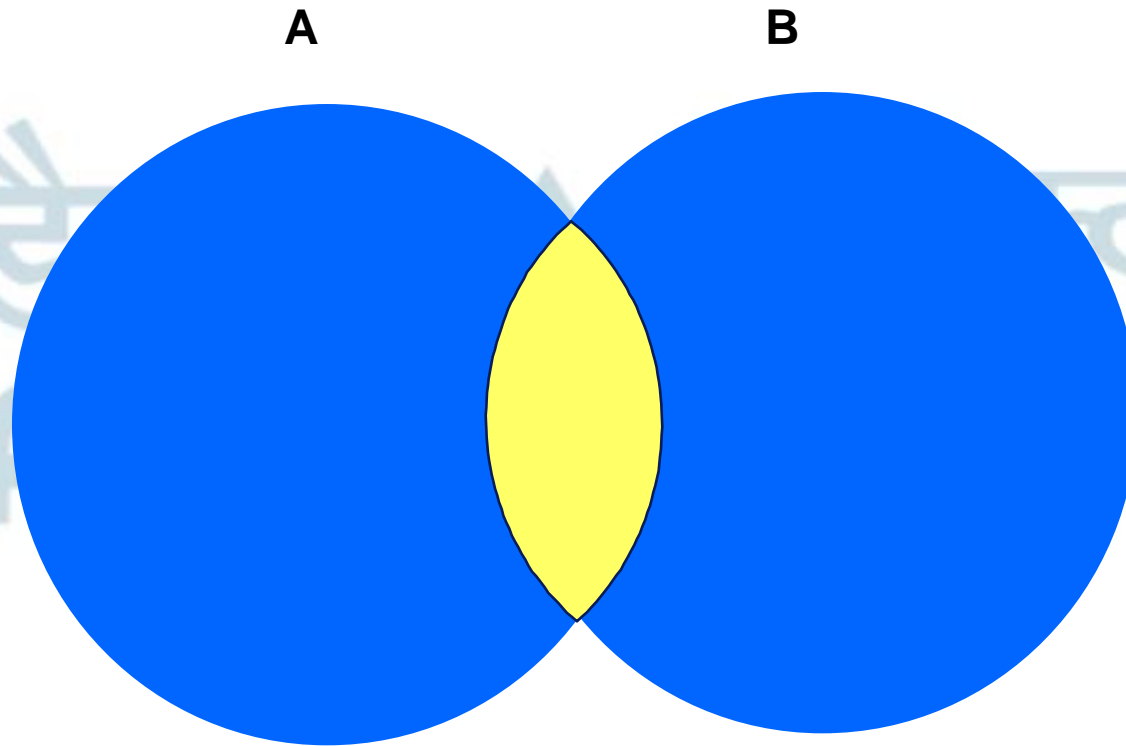
**Display the current and previous departments of all employees.**

```
SELECT employee_id, job_id, department_id
FROM   employees
UNION ALL
SELECT employee_id, job_id, department_id
FROM   job_history
ORDER BY employee_id;
```

EMPLOYEE_ID	JOB_ID	DEPARTMENT_ID
100	AD_PRES	90
101	AD_VP	90
...		
200	AD_ASST	10
200	AD_ASST	90
200	AC_ACCOUNT	90
...		
205	AC_MGR	110
206	AC_ACCOUNT	110

30 rows selected.

# The INTERSECT Operator





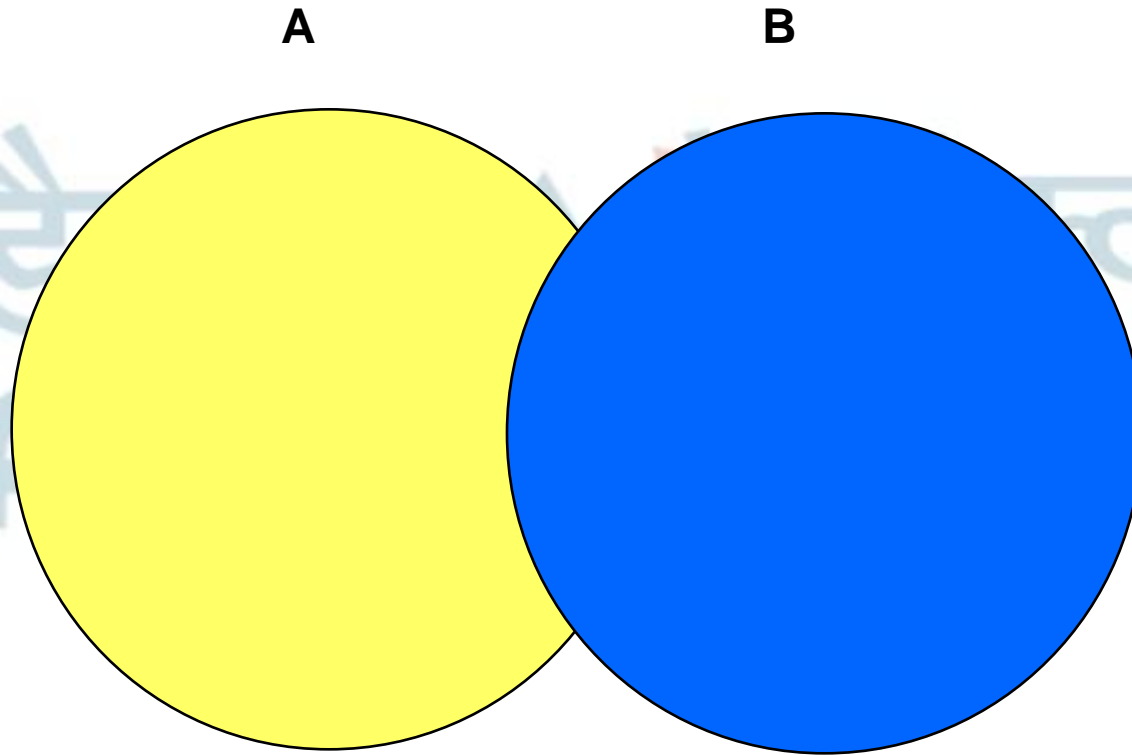
# Using the INTERSECT Operator

**Display the employee IDs and job IDs of employees who currently have a job title that they held before beginning their tenure with the company.**

```
SELECT employee_id, job_id
FROM   employees
INTERSECT
SELECT employee_id, job_id
FROM   job_history;
```

EMPLOYEE_ID	JOB_ID
176	SA_REP
200	AD_ASST

# The MINUS Operator



**Display the employee IDs of those employees who have not changed their jobs even once.**

```
SELECT employee_id, job_id
FROM employees
MINUS
SELECT employee_id, job_id
FROM job_history;
```

EMPLOYEE_ID	JOB_ID
100	AD_PRES
101	AD_VP
102	AD_VP
103	IT_PROG
...	
201	MK_MAN
202	MK_REP
205	AC_MGR
206	AC_ACCOUNT

18 rows selected.

# The Oracle Server and SET Operators

- **The expressions in the SELECT lists must match in number and data type.**
- **Duplicate rows are automatically eliminated except in UNION ALL.**
- **Column names from the first query appear in the result.**
- **The output is sorted in ascending order by default except in UNION ALL.**

**In this lesson, you should have learned how to:**

- **Use UNION to return all distinct rows**
- **Use UNION ALL to returns all rows, including duplicates**
- **Use INTERSECT to return all rows shared by both queries**
- **Use MINUS to return all distinct rows selected by the first query but not by the second**

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**Thank you !**

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