POWERING POTENTIAL

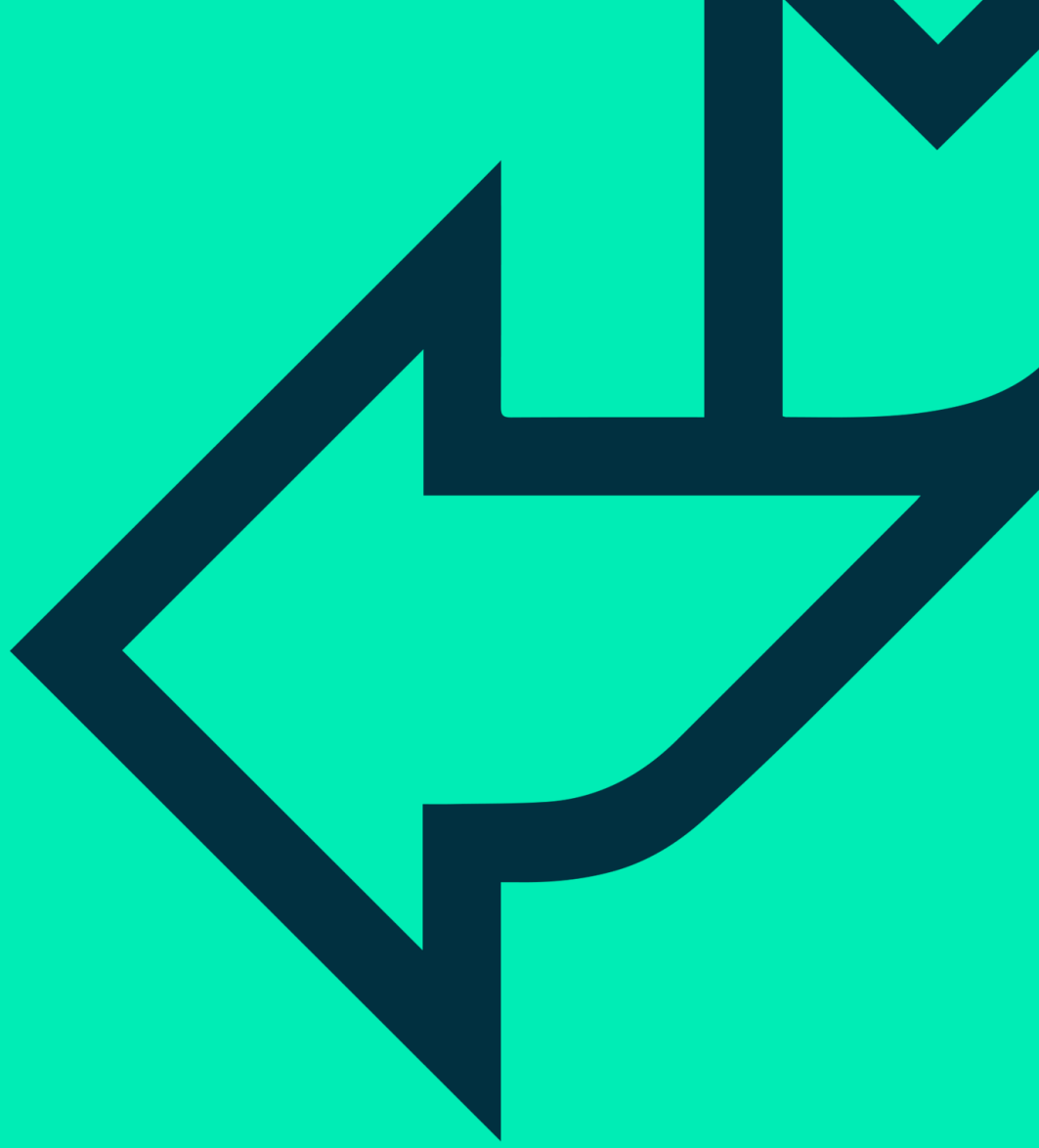
SQL: Set Operators

SQL

Lesson Objectives and Contents

Set Operators

- UNION
- UNION ALL
- INTERSECT
- EXCEPT



SET OPERATORS

Joins allow us to work with multiple tables.

Set Operators allow us to work with multiple queries.

- **UNION**
- **UNION ALL**
- **INTERSECT**
- **EXCEPT**

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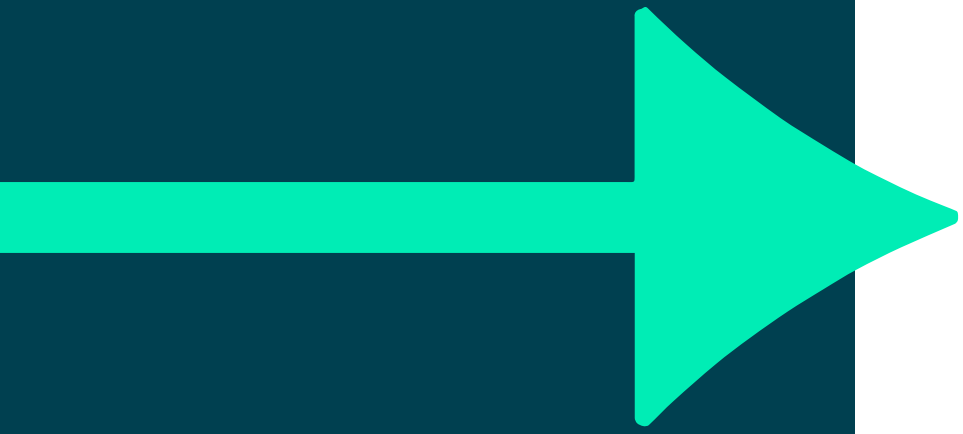


UNION, UNION ALL

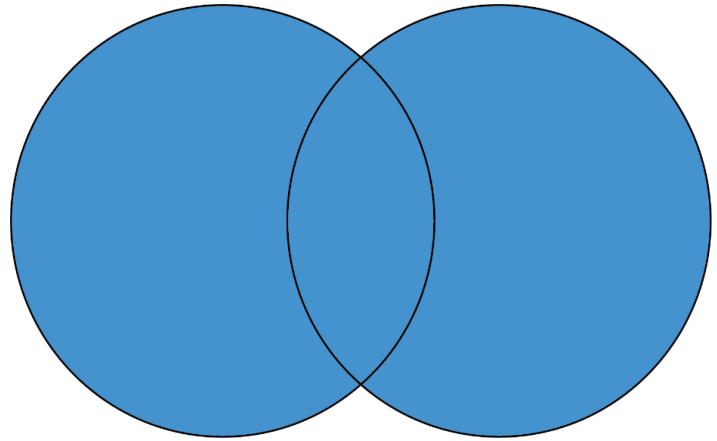
Union

→ Will return all the rows from two or more sets.
→ Duplicate rows will be removed.
→ The order the tables are used in does not matter.

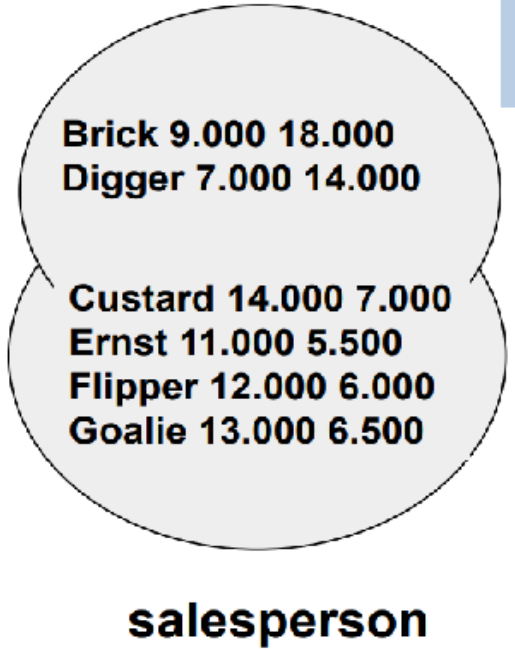
Union All

→ Will return all the rows from two or more sets.
→ Duplicate rows will not be removed.

```
SELECT Columns FROM source1
UNION [ALL]
SELECT Columns FROM source2
```



UNION, UNION ALL EXAMPLE




```
SELECT lname, sales_target, sales_target*2 AS
NewTarget FROM salesperson WHERE
sales_target < 10
UNION
SELECT lname, sales_target, sales_target/2
FROM salesperson WHERE sales_target > 10
```

Brick	9.000	18.000
Digger	7.000	14.000
Custard	14.000	7.000
Ernst	11.000	5.500
Flipper	12.000	6.000
Goalie	13.000	6.500

UNION	UNION ALL
removes duplicates	keeps duplicates

INTERSECT

Intersect

→ Returns all rows that exist in both sets.

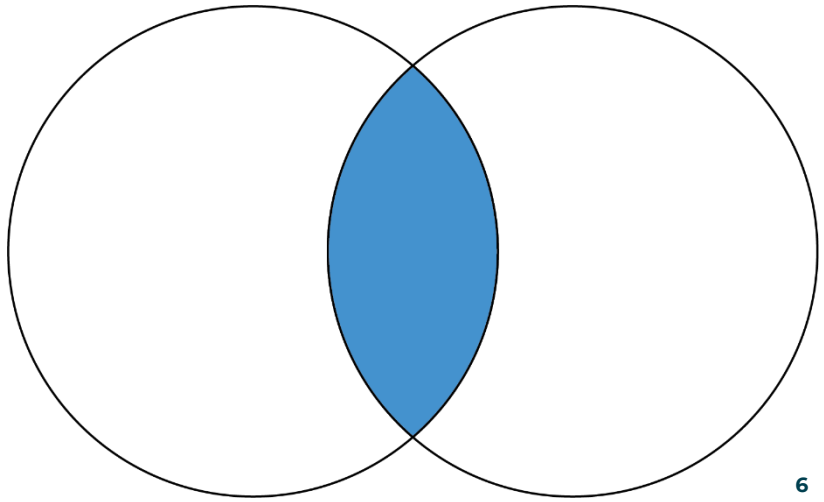
→ The order the tables are used in does not matter.

Notes:

→ The sets included must have the same number of columns and each column must have compatible data types.

→ The ORDER clause can only be used after the intersect has been performed.

```
SELECT Columns FROM source1
INTERSECT
SELECT Columns FROM source2
```



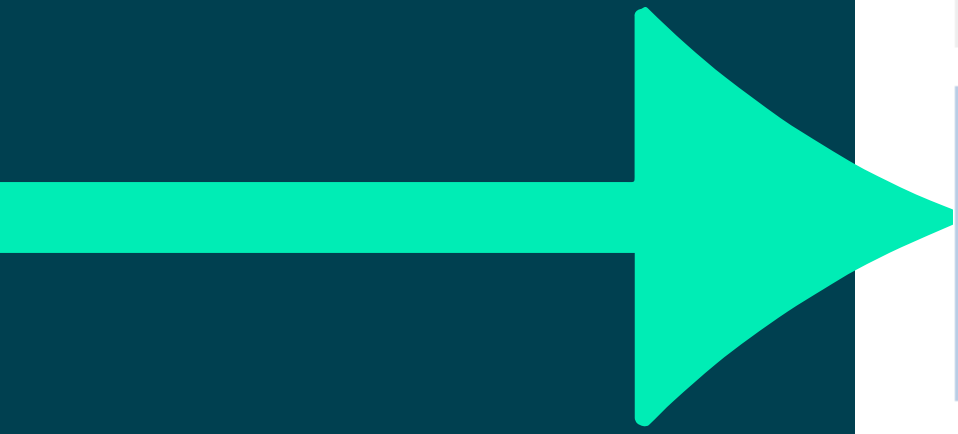
INTERSECT EXAMPLE

salesperson

lname	sales_target
Brick	9.0000
Custard	14.0000
Digger	7.0000
Ernst	11.0000
Flipper	12.0000
Goalie	13.0000

salesperson_2

lname	sales_target
Ernst	11.0000
Shaw	15.0000
Cassa	13.0000



```
SELECT lname, sales_target
FROM salesperson
INTERSECT
SELECT lname, sales_target
FROM salesperson_2
```

lname	sales_target
Ernst	11.0000

EXCEPT

Except

→ Returns all rows that exist in set1 that do not exist in set2.

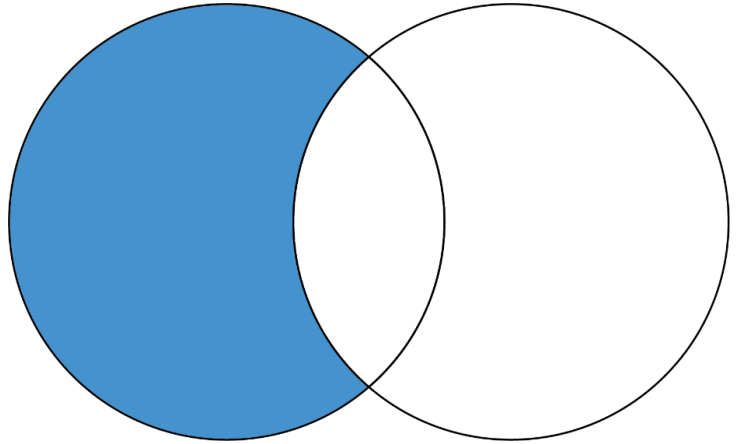
→ The order the tables are used in does matter.

Notes:

→ The sets included must have the same number of columns and each column must have compatible data types.

→ The ORDER clause can only be used after the intersect has been performed.

```
SELECT Columns FROM source1
EXCEPT
SELECT Columns FROM source2
```



EXCEPT EXAMPLE

Iname	sales_target
Brick	9.0000
Custard	14.0000
Digger	7.0000
Ernst	11.0000
Flipper	12.0000
Goalie	13.0000

salesperson

Iname	sales_target
Ernst	11.0000
Shaw	15.0000
Cassa	13.0000

salesperson_2

```
SELECT Iname, sales_target
FROM salesperson_2
EXCEPT
SELECT Iname, sales_target
FROM salesperson
```

Table order important!

Iname	sales_target
Shaw	15.0000
Cassa	13.0000