SQL – Operators

Comparison Operators

=   <   >   <=   >=   <>   !=   !<   !>

Arithmetic Operators

+   -   *   /   %

Logical Operators

AND   OR   IN   BETWEEN   LIKE

IS NULL   NOT

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SQL – Comparison Operators

Comparison Operators help define whether a condition between two fields or functions of fields is true or false

	=	Equal to
	<	Less than
	>	Greater than
	<=	Less than or equal to
	>=	Greater than or equal to
<>	!=	Not equal to
	!>	Not greater than
	!<	Not less than

```
WHERE FIELD_A <= FIELD_B

HAVING SUM(FIELD_C) != 100
```

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SQL – Arithmetic Operators

Arithmetic Operators execute common arithmetic functions

+	Addition
-	Subtraction
*	Multiplication
/	Division
%	Modulus (remainder of x/y)

```sql
WHERE FIELD_A + FIELD_B = FIELD_C

HAVING SUM(FIELD_D) – 100 > SUM(FIELD_E)/2

WHERE (FIELD_A + FIELD_B) / 10 < 50

SELECT FIELD_A + FIELD_B AS FIELD_N

SELECT GROUP_FIELD, SUM(FIELD_C) - SUM(FIELD_D) AS FIELD_N
```
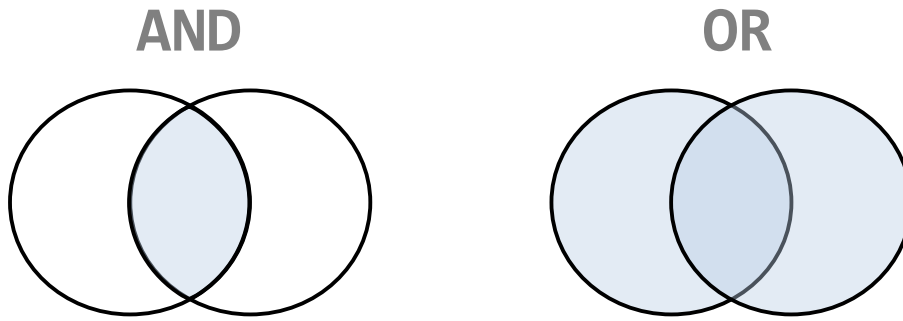
SQL – Logical Operators

Logical Operators define specific logical conditions in queries

AND   All conditions in a statement are true

OR   At least one condition in a statement is true

AND   OR


```
WHERE FIELD_A < 10 AND FIELD_B > 100

HAVING SUM(FIELD_C) = 50 OR MIN(FIELD_D) >= 5
```

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SQL – Logical Operators

Logical Operators define specific logical conditions in queries

IN   Whether a field or expression value is in a specific list of possible values

- Shorthand for a long list of OR conditions

```
WHERE FIELD_A = 'AAA' OR FIELD_A = 'BBB' OR FIELD_A = 'CCC'

WHERE FIELD_A IN ('AAA', 'BBB', 'CCC')
```

BETWEEN   Whether a field value or expression is between two other values or expressions

- Shorthand for a compound AND condition

```
WHERE FIELD_A >= 10 AND FIELD_A <= 100

WHERE FIELD_A BETWEEN 10 AND 100
```

SQL – Logical Operators

Logical Operators define specific logical conditions in queries

LIKE   Returns true if a specific set of characters is present in a string or text value

- Uses wildcards:
  - %   Any string of zero or more characters
  - _   Any single character

```
WHERE FIELD_A LIKE 'abc%'
```
- True for any string that starts with 'abc' regardless of how long that string is

```
WHERE FIELD_A LIKE 'abc_'
```
- True only if the string starts with 'abc' and is four characters long

```
WHERE FIELD_A LIKE '%abc%'
```
- True if 'abc' appears anywhere in the string

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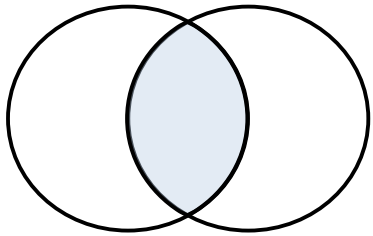# SQL – Logical Operators

Logical Operators define specific logical conditions in queries

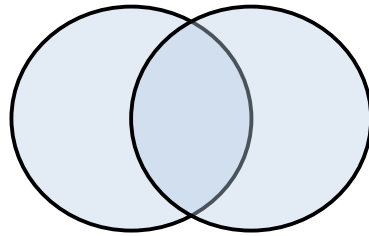`IS NULL`   Returns true if a value or expression is NULL

`WHERE FIELD_A IS NULL`

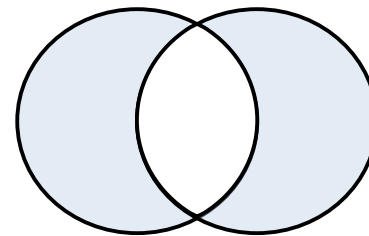`NOT`   Reverses the logical meaning of other operators

AND	OR	NOT AND

`WHERE NOT (FIELD_A < 10 AND FIELD_B > 100)`

`WHERE FIELD_A NOT LIKE '%abc%'`

`WHERE FIELD_A IS NOT NULL`

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Recap

Comparison Operators

Arithmetic Operators

Logical Operators