SQL (Structured Query Language)

Database:- A collection of data in a format which can be easily accessed.

DBMS (Database Management System)
Two types of DBMS:-
1. Relational Database:- Store data in table which are linked to each other using Relationships.
   Eg. MySQL, Oracle, PostgreSQL

2. NoSQL :- We don't have tables or relationships. Don't understand SQL.
   Eg. mongoDB

Operators in SQL
1. Greater than >
2. Greater than equal to >=
3. Less than <
4. Less than equal to <=
5. Equal to =
6. Not Equal to != or <>

SELECT clause
  – Fetch data
Eg:

```
SELECT
-- *
name,
unit_price,
unit_price * 1.1 AS 'new price'
FROM products;
```

WHERE Clause
  – Condition
Eg:

```
SELECT
*
-- first_name,
-- last_name,
-- points,
-- points + 10 * 100 AS discount
from customers
WHERE state='VA';
```

AND OR NOT Operator

```
SELECT
*
-- first_name,
-- last_name,
-- points,
-- points + 10 * 100 AS discount
from customers
where birth_date > '1990-01-01' OR
(points > 1000 AND state='VA');
```

IN Operator
  – List of values
Customers who live in VA or FL or GA

```
SELECT
*
from customers
where state='VA' OR state='FL' OR state='GA';
```

Can be written as

```
SELECT
*
from customers
where state IN ('VA', 'FL', 'GA')
```

BETWEEN
  – Range values
  – Customers whose points are between 1000 and 3000

```
SELECT
*
from customers
where points >= 1000 and points <=3000;
```

Can be written as

```
SELECT
*
from customers
where points between 1000 AND 3000
```

LIKE
  – Last name starts with b

SELECT
*
from customers
where last_name like 'b%'

REGEXP

SELECT
*
from customers
where
last_name like '%field'
-- address like '%trail%' OR address like '%avenue%'
-- phone like '%9'

Can be written as

SELECT
*
from customers
where
-- last_name like '%field'
last_name REGEXP 'field'
-- address like '%trail%' OR address like '%avenue%'
-- phone like '%9'

SELECT
*
from customers
where
-- first_name REGEXP '^elka|ambur'
-- last_name REGEXP 'ey$|on$'
-- last_name REGEXP '^my|se'
last_name REGEXP 'b[ru]'