📌 **Pattern Matching in SQL – Notes**

🔷 **1. Introduction**

Pattern matching in SQL is used to search for specific patterns within text data.

It is useful for:

- Searching names, emails, phone numbers
- Validating formats
- Filtering structured/unstructured text
- Data cleaning and analysis

---

🔷 **2. LIKE Operator**

The **LIKE** operator is used for basic pattern matching.

✅ **Syntax:**

SELECT column_name

FROM table_name

WHERE column_name LIKE pattern;

---

🔷 **Wildcard Characters**

**Wildcard Meaning**

%        Matches any sequence of characters (0 or more)

_        Matches exactly one character

---

🔷 **Examples (Using products Table)**

1️⃣ **Product Name Ends with 's'**

SELECT *

FROM products

WHERE product_name LIKE '%s';

✓ %s → Ends with **s**

---

2️⃣ **Brand Name Contains 'ad'**

SELECT *

FROM products

WHERE brand_name LIKE '%ad%';

✓ %ad% → 'ad' anywhere in string

---

### 3 Brand Name Starts with 'P' and Ends with 'S'

SELECT *

FROM products

WHERE brand_name LIKE 'P%S';

✓ Starts with **P**
✓ Ends with **S**

---

### 4 Product Name Starts with 'S'

SELECT *

FROM products

WHERE product_name LIKE 'S%';

✓ Starts with **S**

---

### 5 Product Name Contains 'SHO'

SELECT *

FROM products

WHERE product_name LIKE '%SHO%';

✓ Contains **SHO**

⚠ Case sensitivity depends on SQL server configuration.

---

### 6 Brand Name Exactly 6 Characters

SELECT *

FROM products

WHERE brand_name LIKE '_____';

✓ Each _ = 1 character
✓ Total = 6 characters

---

**7** **Second Character is 's'**

SELECT *

FROM products

WHERE brand_name LIKE '_s%';

✔ _ = first character
✔ s = second character