

## Experiment No. 4

Aim:

To apply different SQL clauses such as LIKE, AND, BETWEEN, NOT BETWEEN, IN & NOT IN on a created database.

Objective:

To use these clauses to filter data based on certain conditions.

Aim:	To apply different SQL clauses such as LIKE, AND, BETWEEN, NOT BETWEEN, IN & NOT IN on a created database.
Objective:	To use these clauses to filter data based on certain conditions.
DB Setup:	Creating a table to store information about various books. The table will have the following columns:
	i) BookID : This will be the unique identifier for each book (Primary key).
	ii) Title : The title of the book.
	iii) Author : The author of the book.
	iv) Publication Year : The year book was published.
	v) Price : The mkt price of the book.
SQL code	i) Creating the books table: The SQL query used to
explanation:	create the books table is as follows:
	BookID is an integer column, & it is set as the primary key, which ensures that each book will have a unique identifier.



Title & author are text columns that will store the book's title & author name.

PublicationYear is in integer column used to store & store the year the book was published.

Price is the decimal column to store the price of the book.

Inserting the sample data: The data is inserted into the books table as:

```
INSERT INTO Books (BookID, Title, Author,
PublicationYear, Price)
```

VALUES

(1, 'The Great Gatsby', 'F. Scott Fitzgerald', 1925, 10.99),

(2, '1984', 'George Orwell', 1949, 8.99),

(3, 'To kill a mockingbird', 'Hopper lee', 1960, 17.99),

(4, 'The catcher in the Rye', 'J.D. Salinger', 1951, 6.49),

(5, 'Moby Dick', 'Herman Melville', 1851, 12.49),

(6, 'Pride & Prejudice', 'Jane Austen', 1813, 9.99),

(7, 'War & Peace', 'Leo Tolstoy', 1869, 14.99),

(8, 'Brave new world', 'Aldous Huxley', 1932, 11.49);

Clauses with SQL queries: 1) LIKE Clause: The "like" clause is used to search for a specified pattern in a column. The percentage symbol (%) is used as a wildcard to represent any sequence of characters.

Query: Find books whose title contains "the" word  
SELECT \* FROM Books WHERE title LIKE '%The%'.



ii) AND clause : The 'AND' clause is used to combine multiple conditions. All conditions specified must be true for a record to be returned.

Query : Find books published after 1900 and priced above \$10

~~SELECT \* FROM Books WHERE PublicationYear BETWEEN 1900 AND 1950 ;~~

SELECT FROM \* Books WHERE PublicationYear > 1900  
AND Price > 10 ;

iii) Between clause : The "BETWEEN" clause is used to filter results within a specified range, inclusive of the boundaries.

Query : Find books published between the years 1900 & 1950.

SELECT \* FROM Books WHERE PublicationYear BETWEEN 1900 & 19 AND 1950 ;

iv) NOT BETWEEN clause : is used to exclude records that fall within a specified range.

Query : Find books whose publication year is not in between 1800 and 1900.

SELECT \* FROM Books WHERE PublicationYear NOT  
BETWEEN 1800 AND 1900 ;

v) IN clause : Allows to specify a list of values to search for. It returns records where the column

Conclusion: In this practical, exploration of different SQL clauses to filter data from the books table. These clauses are powerful tools for querying Databases & can help refine search results to meet specific criteria.



QUESTION

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NEW

MYSQL

RUN

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```
3 - CREATE TABLE Books (
4   BookID INT PRIMARY KEY,
5   Title VARCHAR(100),
6   Author VARCHAR(100),
7   PublicationYear INT,
8   Price DECIMAL(10, 2)
9 );
10 -- Insert sample data
11 INSERT INTO Books (BookID, Title, Author, PublicationYear, Price)
12 VALUES
13 (1, 'The Great Gatsby', 'F. Scott Fitzgerald', 1925, 10.99),
14 (2, '1984', 'George Orwell', 1949, 8.99),
15 (3, 'To Kill a Mockingbird', 'Harper Lee', 1960, 7.99),
16 (4, 'The Catcher in the Rye', 'J.D. Salinger', 1951, 6.49),
17 (5, 'Moby Dick', 'Herman Melville', 1851, 12.49),
18 (6, 'Pride and Prejudice', 'Jane Austen', 1813, 9.99),
19 (7, 'War and Peace', 'Leo Tolstoy', 1869, 14.99),
20 (8, 'Brave New World', 'Aldous Huxley', 1932, 11.49);
```

-- Queries using different clauses:

```
21 -- Live clause: Find books with "The" in the title
22 SELECT * FROM Books
23 WHERE Title LIKE 'The%';
24
25 -- AND clause: Find books published after 1900 and priced above $10
26 SELECT * FROM Books
27 WHERE PublicationYear > 1900 AND Price > 10;
28
```

```
29 -- BETWEEN clause: Find books published between 1900 and 1950
30 SELECT * FROM Books
31 WHERE PublicationYear BETWEEN 1900 AND 1950;
32
```

```
33 -- NOT BETWEEN clause: Find books published outside 1800-1900
34 SELECT * FROM Books
35 WHERE PublicationYear NOT BETWEEN 1800 AND 1900;
36
```

```
37 -- IN clause: Find books by George Orwell or Harper Lee
38 SELECT * FROM Books
39 WHERE Author IN ('George Orwell', 'Harper Lee');
40
```

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Output:

BookID	Title	Author	PublicationYear	Price
1	The Great Gatsby	F. Scott Fitzgerald	1925	10.99
4	The Catcher in the Rye	J.D. Salinger	1951	6.49

BookID	Title	Author	PublicationYear	Price
1	The Great Gatsby	F. Scott Fitzgerald	1925	10.99
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BookID	Title	Author	PublicationYear	Price
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2	1984	George Orwell	1949	8.99
3	To Kill a Mockingbird	Harper Lee	1960	7.99
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5	Moby Dick	Herman Melville	1851	12.49
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BookID	Title	Author	PublicationYear	Price
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BookID	Title	Author	PublicationYear	Price
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queries.sql

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MSQL

RUN

9 -- Insert sample data  
10 INSERT INTO Books (BookID, Title, Author, PublicationYear, Price)  
11 VALUES

- 12 (1, 'The Great Gatsby', 'F. Scott Fitzgerald', 1925, 10.99),
- 13 (2, '1984', 'George Orwell', 1949, 8.99),
- 14 (3, 'To Kill a Mockingbird', 'Harper Lee', 1960, 7.99),
- 15 (4, 'The Catcher in the Rye', 'J.D. Salinger', 1951, 6.49),
- 16 (5, 'Moby Dick', 'Herman Melville', 1851, 12.49),
- 17 (6, 'Pride and Prejudice', 'Jane Austen', 1813, 9.99),
- 18 (7, 'War and Peace', 'Leo Tolstoy', 1869, 14.99),
- 19 (8, 'Brave New World', 'Aldous Huxley', 1932, 11.49);

20 -- Queries using different clauses:

21 -- LIKE clause: Find books with "The" in the title  
22 SELECT \* FROM Books  
23 WHERE Title LIKE 'The%';

24 -- AND clause: Find books published after 1900 and priced above \$10  
25 SELECT \* FROM Books  
26 WHERE PublicationYear > 1900 AND Price > 10;

27 -- BETWEEN clause: Find books published between 1900 and 1950  
28 SELECT \* FROM Books  
29 WHERE PublicationYear BETWEEN 1900 AND 1950;

30 -- NOT BETWEEN clause: Find books published outside 1800-1900  
31 SELECT \* FROM Books  
32 WHERE PublicationYear NOT BETWEEN 1800 AND 1900;

33 -- IN clause: Find books by George Orwell or Harper Lee  
34 SELECT \* FROM Books  
35 WHERE Author IN ('George Orwell', 'Harper Lee');

36 -- NOT LIKE clause: Find books whose author is not J.D. Salinger  
37 SELECT \* FROM Books  
38 WHERE Author NOT LIKE 'J.D. Salinger';

39 -- NOT IN clause: Find books whose author is neither 'George Orwell' nor 'Harper Lee'  
40 SELECT \* FROM Books  
41 WHERE Author NOT IN ('George Orwell', 'Harper Lee');

*Rush*

BookID	Title	Author	PublicationYear	Price
1	The Great Gatsby	F. Scott Fitzgerald	1925	10.99
2	1984	George Orwell	1949	8.99
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4	The Catcher in the Rye	J.D. Salinger	1951	6.49
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8	Brave New World	Aldous Huxley	1932	11.49

value matches only any of the values in the list.  
 Query: Find books written by George Orwell or Harper Lee.

```
SELECT * FROM Books WHERE Author IN ('George Orwell', 'Harper Lee');
```

vi) NOT IN clause: is used to exclude records where the column value matches any value in a specified list.

Query: Find Books whose Author is neither George Orwell or Harper Lee.

```
SELECT * FROM Books WHERE Author NOT IN ('George Orwell', 'Harper Lee');
```

vii) NOT LIKE clause: is used to exclude records where column value matches a specific pattern.

Query: Find books whose author is not JD Salinger.

```
SELECT * FROM Books WHERE Author NOT LIKE 'JD Salinger';
```

Conclusion: In this practical, exploration of different SQL clauses to filter data from the books table.

These clauses are powerful tools for querying Databases & can help refine search results to meet specific criteria.

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24/4/25