Unit 3: Database Management System using LibreOffice Base
Chapter 11: Queries in Base

1. Query

A **Query** is a way to retrieve specific data from one or more tables based on certain conditions. It helps filter, sort, and perform operations on the data.

1.1 Creating a Query in Design View

Steps:

1. Open LibreOffice Base and load your database.
2. In the left pane, click **Queries**.
3. Click **Create Query in Design View**.
4. Add tables to the query by selecting them and clicking **Add**.
5. Select the required **fields** from the table(s).
6. Apply **criteria** if needed in the **Criteria row**.
7. Save the query and **Run** it using the green triangle button.

1.2 Creating a Query using Query Wizard

Steps:

1. In the Queries section, click **Use Wizard to Create Query**.
2. Select the table and fields you want to include.
3. Set **sorting options**.
4. Set **search conditions (criteria)** if needed.
5. Choose **detail or summary query**.
6. Assign a **title** and choose whether to **open** or **modify** the query.

1.3 Editing a Query

Steps:

1. Right-click the query name in the list.
2. Choose **Edit**.
3. Modify field selection, sorting, or criteria.
4. Save changes.

1.4 Setting Multiple Field Criteria

You can specify conditions for **more than one field** in the design view.

Example:

Field	Criteria
City	= 'Delhi'
Age	> 25

 *This query will return records where city is Delhi **AND** age is greater than 25.*

1.5 Using Wildcards

Wildcards are used with **LIKE** criteria to match patterns.

Symbol	Usage
%	Matches any number of characters
_	Matches a single character

Examples:

- LIKE 'A%' – matches names starting with A.
- LIKE '_an' – matches names like "Dan", "Man", etc.

1.6 Performing Calculation in Queries

You can perform calculations like addition, subtraction, multiplication, etc.

Example:

- In a column: Salary * 12 as "Annual Salary"
- Use aliases:
  SELECT Name, Salary * 12 AS "Annual Salary" FROM Employee;

1.7 Grouping Data in Queries

Group By is used to group records and perform aggregate operations (SUM, AVG, COUNT).

Steps:

1. In design view, go to **View > Aggregate Functions**.
2. Select **Group** or **Function** for each field.
3. Use **SUM, COUNT, AVG, MAX, MIN**, etc., on numeric fields.

Example:

To find **total sales per city**:

- Group by: City
- Function: SUM(Sales)

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2. SQL (Structured Query Language)

SQL is the language used to communicate with databases.

2.1 Basic SQL Commands

Command	Purpose
SELECT	Retrieve data from table
FROM	Specify table name
WHERE	Set condition
ORDER BY	Sort the result
GROUP BY	Group data

Example:

SELECT Name, Salary FROM Employee WHERE Salary > 20000;

2.2 More SQL Commands

a. Creating a Table

CREATE TABLE Student (RollNo INT PRIMARY KEY, Name VARCHAR(50), Age INT, Course VARCHAR(30));

b. Inserting Record

INSERT INTO Student (RollNo, Name, Age, Course) VALUES (101, 'Rahul', 20, 'IT');

c. Updating Record

UPDATE Student SET Age = 21 WHERE RollNo = 101;

d. Deleting Record

DELETE FROM Student WHERE RollNo = 101;