Task 1 – Basic Questions

1. What is a database?

A **Database** is an organized collection of data stored in a structured format.

- Helps to store, manage, and retrieve data efficiently.
- Example: A college database stores details of students, courses, and marks.

2. What is DBMS and its features?

DBMS (Database Management System) is software that allows users to create, manage, and manipulate databases.

Features of DBMS:

- Data storage, retrieval, and update.
- Ensures data integrity and security.
- Provides concurrency control for multi-users.
- Supports backup and recovery.
- Enforces data independence (separates data from applications).

3. What is the difference between DBMS and RDBMS?

Feature	DBMS (Database Management System)	RDBMS (Relational DBMS)
Data Storage	Stores data as files	Stores data in tables (rows & columns)
Relationships	Does not support relationships	Supports relationships using **keys**
Normalization	Not supported	Supported
Examples	MS Access, File System	MySQL, Oracle, PostgreSQL

4. What is the difference between SQL and MYSQL?

Feature	SQL	MySQL
Definition	Language used to manage databases	Database software that uses SQL
Functionality	Querying, inserting, updating	Database management + security, storage
Type	Language	RDBMS tool

5. What is the difference between SQL and NOSQL?

Feature	SQL (Relational)	NoSQL (non-relational)
Structure	Tables (rows & columns)	Key-Value, Document, Graph
Schema	Fixed schema	Flexible schema
Scalability	Vertical scaling	Horizontal scaling
Example	MySQL, Oracle	MongoDB, Cassandra

6. **Draw a client server architecture and take an image of that and insert it in your text documentation.**