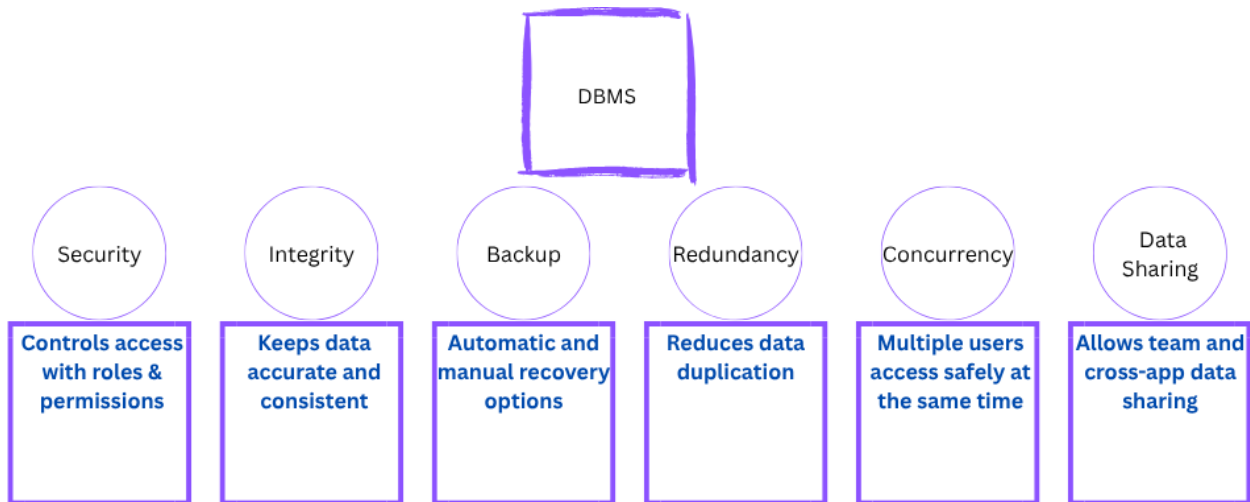


# Database Search and Reporting

Flat File Systems vs. Relational Databases:

Feature	Flat File System	Relational Database System
Structure	Single table/file	Multiple tables with relations
Redundancy	High (data repeated)	Reduced (data normalized)
Relationships	None	Tables linked using keys (PK/FK)
Example Usage	CSV, Excel Sheets	MySQL, PostgreSQL
Drawbacks	Not scalable, prone to errors	Complex setup and maintenance

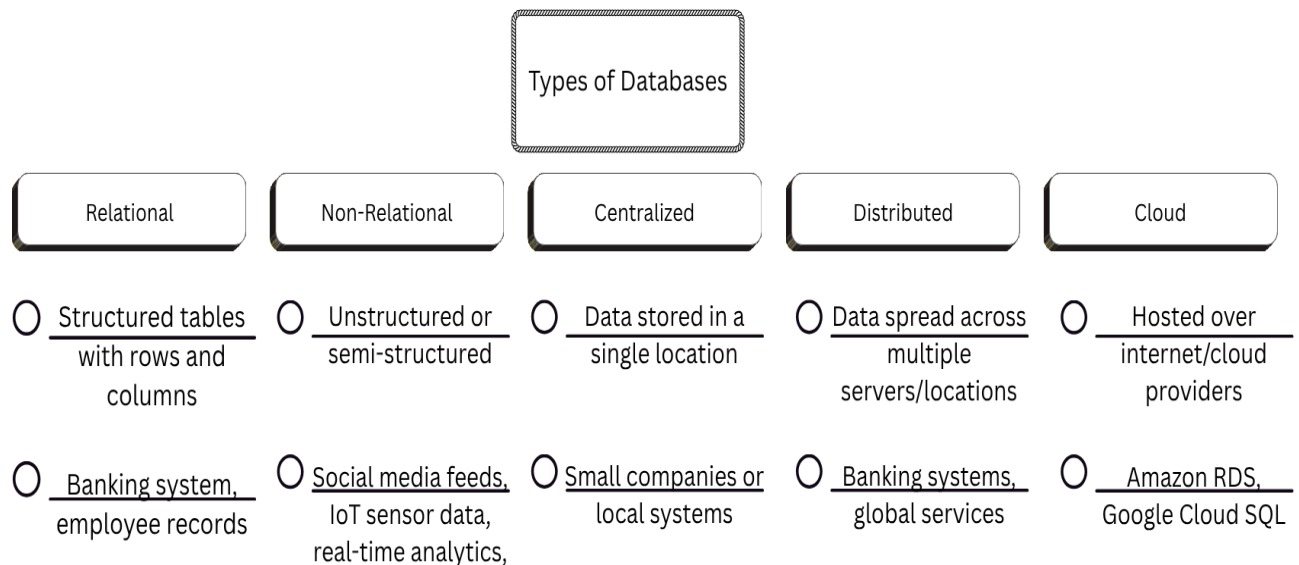
DBMS Advantages – Mind Map:



## Roles in a Database System:

Role	Responsibilities
System Analyst	Gathers user requirements and proposes technical solutions
Database Designer	Designs the logical and physical database schema
Database Developer	Implements SQL queries, stored procedures, triggers
Database Admin (DBA)	Manages database security, performance, backups, and recovery
Application Developer	Integrate database with applications using code
BI (Business Intelligence) Developer	Builds dashboards, reports, and uses data for insights and decision-making

## Types of Databases:



## Cloud Storage and Databases:

Topic	Explanation
<b>What is Cloud Storage?</b>	A model of data storage where digital data is stored on remote servers accessed via the internet.
<b>Relations to Databases</b>	Cloud storage provides backend storage for cloud databases and supports features like scalability, backups, and high availability.
<b>Examples of Cloud Databases</b>	Azure SQL Database, Amazon RDS, Google Cloud Spanner, Firebase Realtime DB
<b>Advantages</b>	- Easy scalability- Pay-as-you-go pricing- Automated backups- High availability- Accessible from anywhere
<b>Disadvantages / Challenges</b>	- Requires stable internet connection- Data privacy/security concerns- Possible vendor lock-in- Latency in some cases