What is a Database?

- Definition of a database: a structured collection of data that is organized and accessible.
- Explanation of how databases store and manage information.

Types of Databases

Overview of different types of databases, such as relational, hierarchical, and object-oriented.

- Brief explanation of each type and its common use cases.

Components of a Database

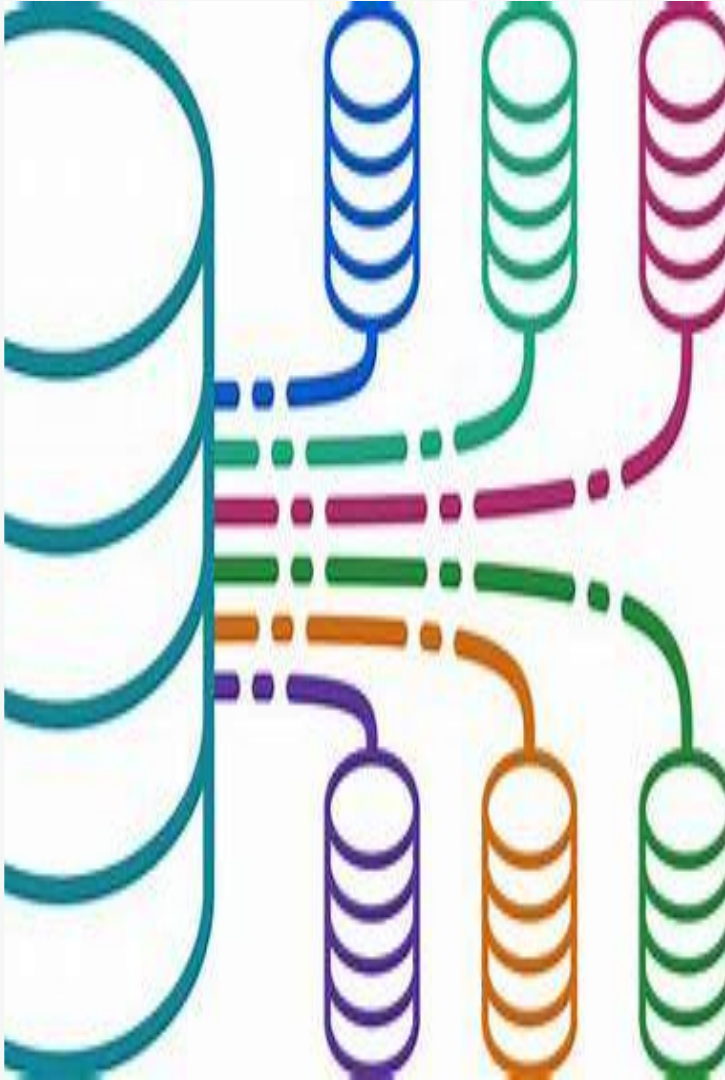
Introduction to the main components of a database:

- Tables: The basic structure for storing data.
- Fields: Individual data elements within a table.
- Records: Complete sets of data related to a specific entity.
- Keys: Unique identifiers for records and relationships between tables.

Relational Databases

In-depth explanation of relational databases:

- Tables: Primary entities and their relationships.
- Primary Key: Unique identifier for each record.
- Foreign Key: Links records between tables.
- Joins: Combining related data from multiple tables.



Database Design

Overview of the importance of proper database design:

- EntityRelationship Diagrams (ERDs): Visual representation of database structure.
- Normalization: Eliminating redundancy and ensuring data integrity.
- Indexing: Improving query performance.

Querying Databases

Introduction to querying databases using Structured Query Language (SQL):

SELECT, INSERT, UPDATE, DELETE statements.

Filtering, sorting, and joining data.

Basic SQL syntax and examples.

Database Management Systems (DBMS)

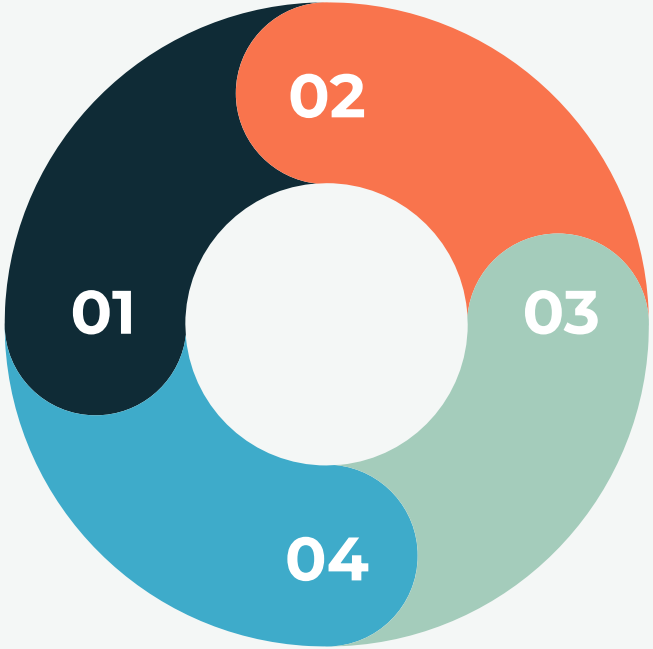
Explanation of DBMS and its role in managing databases:

- Popular DBMS software (e.g., Oracle, MySQL, SQL Server).
- Features and functions of a DBMS.
- Security and access control.

Data Integrity and Security

Importance of data integrity and security in databases:

Ensuring accuracy, consistency, and reliability of data.



Implementing user access controls and permissions.

Backup and recovery strategies.

Conclusion

- Recap of key points covered in the presentation.
- Emphasize the significance of databases in modern information management.
- Encourage further exploration and learning about advanced database concepts.

auspices doctor:**Marwa Al-Hadi**

work student :fadl al-matari