RDBMS

Overview

- In this module you will learn about introduction to RDBMS

Contents

In this section we are going to discuss about:

- Introducing relational databases, persistent storage benefits
- DBMS vs RDBMS
- Terminologies in RDBMS
- Database schema and schema design.
- Keys and different types of keys.

Learning Objectives

At the end of this course. You will be able to:

- Understand about RDBMS.
- Difference between dbms and rdbms.
- Terminologies in rdbms like tuple, table, attribute, cardinality, etc.
- Understand about database schema and schema design.
- Understand about keys and different keys present in rdbms.

Introducing Relational Database

- A database that follows the relational model and stores data in a tabular format is known as a relational database. The database has rows and columns and a unique key for each data point.

Examples:
Microsoft SQL Server, Oracle, MYSQL

Reference- https://media.geeksforgeeks.org/wp-content/uploads/20200427225738/RDBMS.png

Name	Dry/Wet Food	Good Boy (Y/N)
Fido	Dry	Y
Rex	Wet	N
Bubbles	Dry	Y
Cujo	Wet	N

Tag #	Height (in)	Weight (lbs)
1573	15	21
2684	9	7
3795	27	130
4806	6	5

Tag #	Name	Breed	Color	Age
1573	Fido	Beagle	Brown/White	1.5
2684	Rex	Pekingese	White	9
3795	Bubbles	Rottweiler	Black	5
4806	Cujo	Chihuahua	Gold	4

Persistent storage benefits

- Simplicity
- Security
- Flexibility
- Portability
- Efficiency
- Cost-effectiveness

https://miro.medium.com/max/1200/1*mKmwsv-HDqkZi4JzuYmbpw.jpeg

DBMS vs RDBMS

DBMS	RDBMS
• DBMS stands for "Database Management System".	• RDBMS stands for "Relational Database Management System".
• DBMS technology stores the data in the form of files.	• RDBMS stores the data in the form of tables.
• DBMS is designed to handle small amounts of data.	• RDBMS is designed to deal with vast amount of data.
• DBMS provides support only for a single user at a time.	• RDBMS provides support for multiple users at a time.

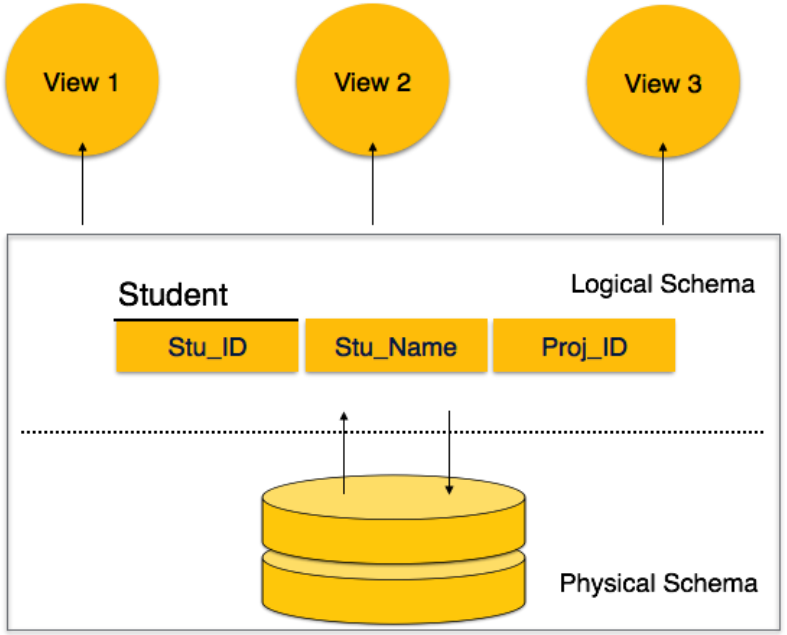
Reference - https://www.tutorialsmate.com/2021/02/difference-between-dbms-and-rdbms.html

Terminology in RDBMS

Table	• A table is a set of data represented by columns and rows.
Row	• It is a combination of column values and is referred to as a record.
Column	• It is referred to as a field.
Relation	• It defines database relationships in the form of tables.
Tuples	• A single row of a table, which contains a single record for that relation
Attributes	• An individual piece of data in a record is known as a field, or attribute.
Degree	• A degree of relationship represents the number of entity types that associate in a relationship
Cardinality	• It refers to the uniqueness of a column in a table.
Domain	• It is a unique set of values permitted for an attribute in a table.

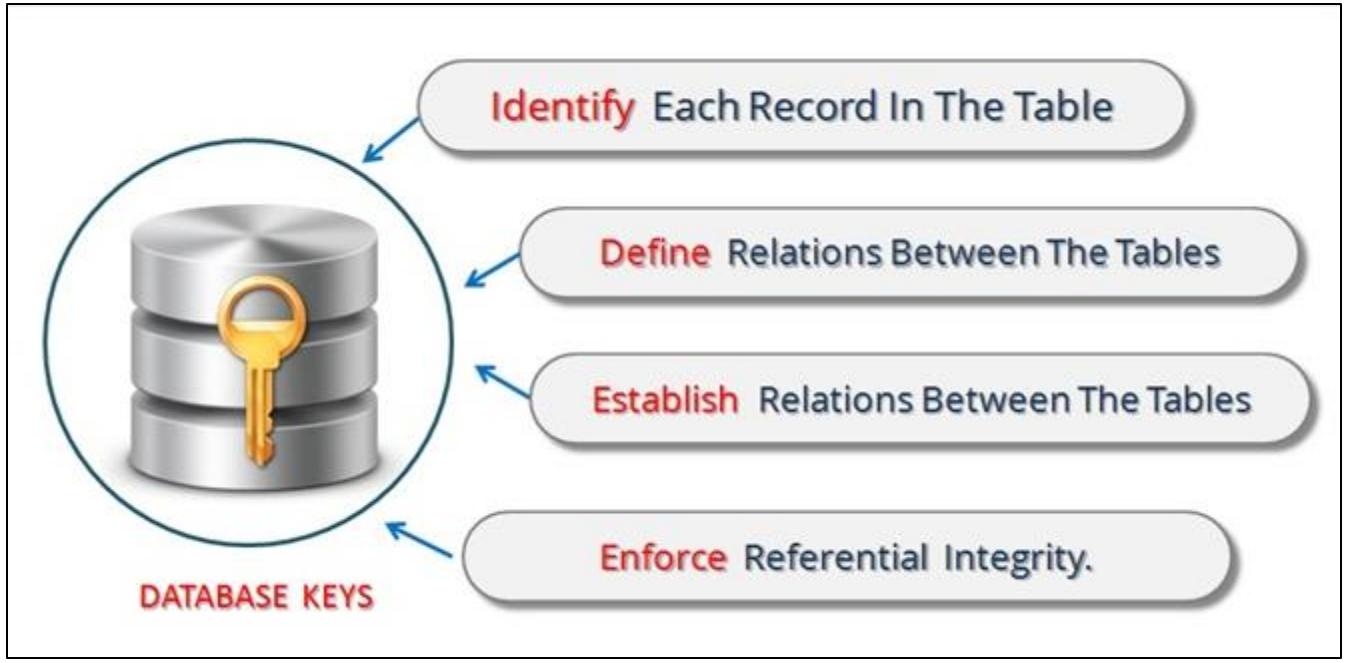
Database Schema and Schema design

- A database **schema** is the skeleton structure that represents the logical view of the entire database.



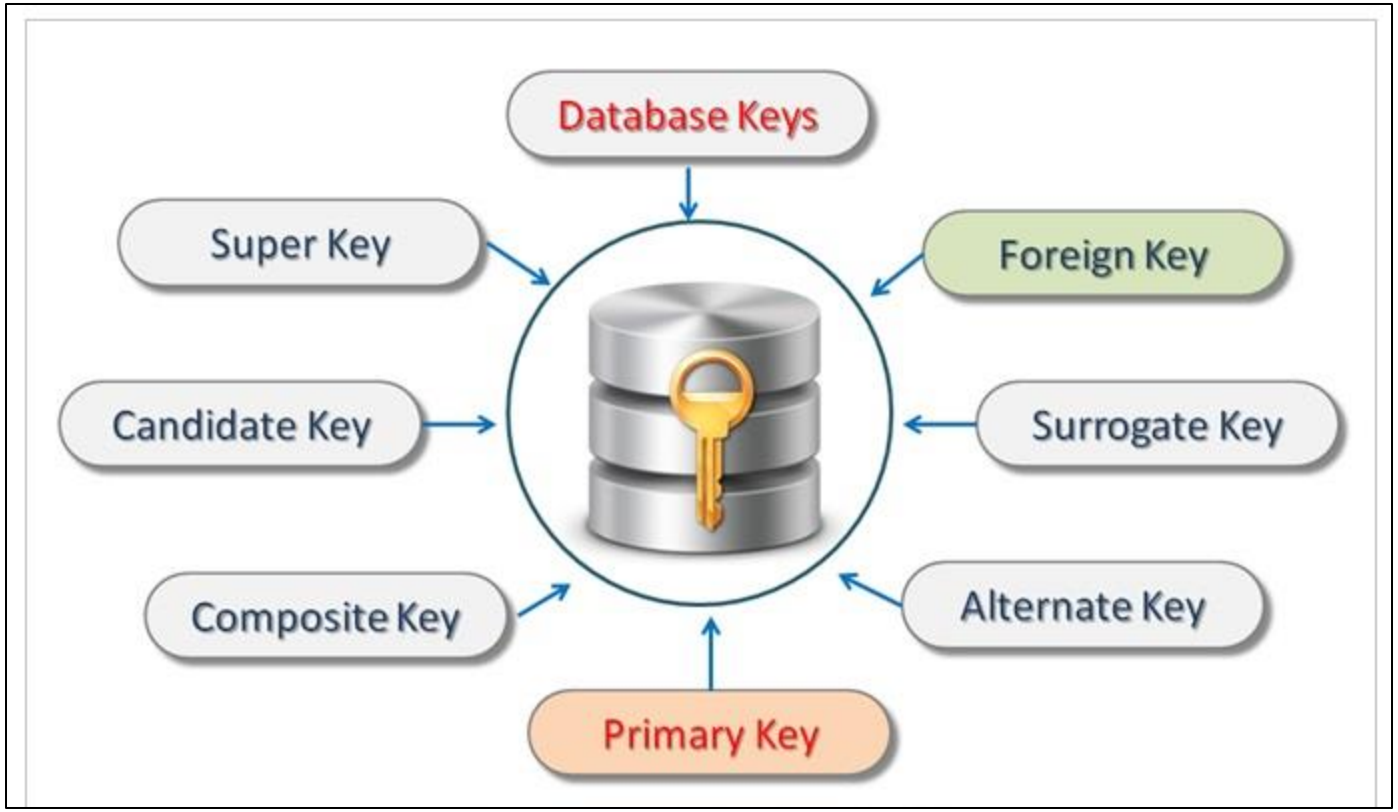
Reference- https://www.tutorialspoint.com/dbms/dbms_data_schemas.htm

What is use of Database Keys ?



Reference - https://www.learncomputerscienceonline.com/database-keys/

Types of RDBMS keys



Reference - https://www.learncomputerscienceonline.com/database-keys/

Conclusion

In this section we have learned about:

- RDBMS means Relational database management system which is a collection of data items with pre-defined relationships between them.
- Persistent storage benefits like Simplicity, Security, Flexibility, Portability, Efficiency, Cost-effectiveness
- Difference between dbms and rdbms.
- A database schema defines its entities and the relationship among them. It contains a descriptive detail of the database, which can be depicted by means of schema diagrams.
- Keys is used to uniquely identify any record or row of data from the table. It is also used to establish and identify relationships between tables.
- Different types of keys such as primary key, foreign key, candidate key, composite key, etc.

Thank You