LESSON.

* DATABASES

- A db is a collection of related data. (Eg Marks of students, name & properties of University in a region etc.)

- Database helps to solve the problem of redundancy, inconsistency.

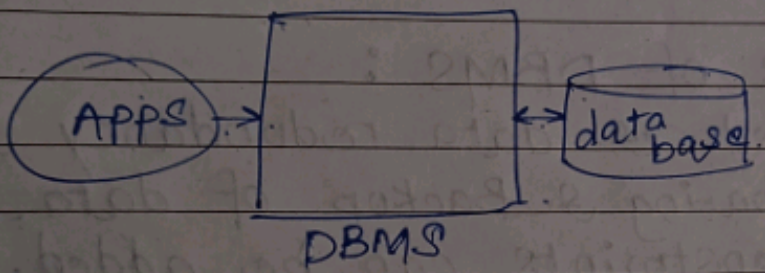
  Redundancy: Storing a particular data again & again.

  Inconsistency: Different versions of same data present everywhere.

- Databases provide easy app integration. So we can integrate multiple apps in same db

DBMS (DATABASE MANAGEMENT SYSTEMS)

- A dbms is a kind of layer between our stored database and applications.



- A dbms provides :
  1) A software to process queries
  2) A software to access database.

- It's a management software that manages db, through which we can query some data, access, update, add data in db.

* WHAT IS SQL?

The SQL (Structured Query Language) are different kind of softwares that help to manage & efficiently retrieve data from db. Eg MySQL, PgSQL, Oracle SQL etc.

So these are db management softwares that allow us to add, remove, create, delete, update values in a db.

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The structured query language (SQL) creates queries that are implemented by the db. to provide relevant information based on the query entered.

- Features of DBMS :
  1. Reduces data redundancy & inconsistency
  2. Sharing & Backup of data.
  3. Constraints can be added.
  4. Better security & integration.

- Now there are different types of dbms. So different db store data in different forms. e.g
  (1) Some store data in tabular form
  (2) Some store in form of key-value pairs.
  (3) Some store in form of documents.

- So according to form & structure of data and application requirements we can select db accordingly.

- One of the most important type of dbms is RDBMS (Relational dbms).

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* RDBMS :

1. In relational dbms (RDBMS) the data is stored in the form of tables.

2. Now every table in rdbms represent some entities. for eg for a movie db. one table has data of 'movies', one table has data of 'actors', one has 'theatres'
So these actors, movies, theatres are entities of tables. These are real life entities.

3. So tables represent entities & every entity has some attributes eg movie (release, rating, actors, collection).
So every column of table represent the properties of entity.

4. Every row represent actual data of the entity.

5. So these type of dbms are called relational because all tables are related to each other.
Two tables of actors & movies are related since a movie table will have actors from actors table.