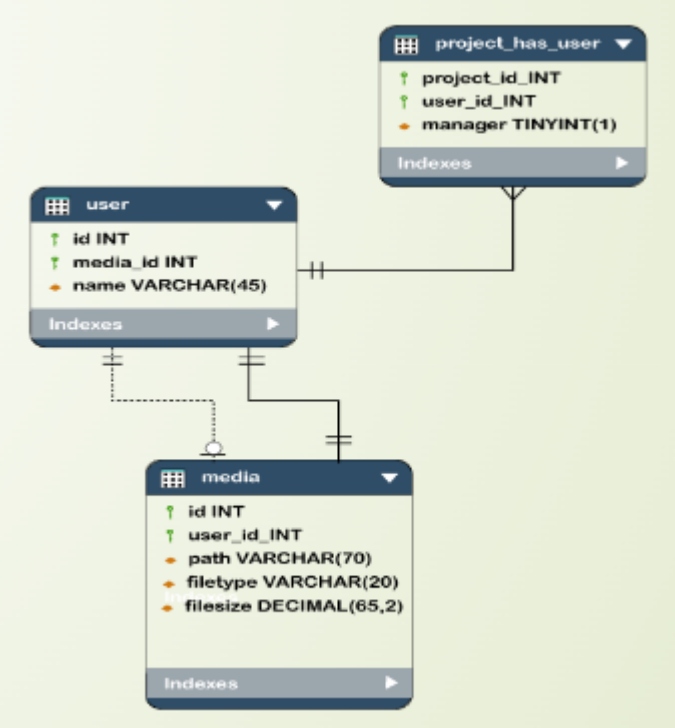
DATABASE SCHEMA(SNOWFLAKE)

WHAT IS DATABASE SCHEMA?

- A database schema is the logical representation of a database, which shows how the data is stored logically in the entire database.
- It contains list of attributes and instruction that informs the database engine that how the data is organized and how the elements are related to each other.
- A database schema contains schema objects that may include **tables, fields, packages, views, relationships, primary key, foreign key.**
- In actual, the data is physically stored in files that may be in unstructured form, but to retrieve it and use it, we need to put it in a structured form. To do this, a database schema is used
- It provides knowledge about how the data is organized in a database and how it is associated with other data.
- **The schema does not physically contain the data itself; instead, it gives information about the shape of data and how it can be related to other tables or models.**

- A database schema object includes the following:
    1. Consistent formatting for all data entries.
    2. Database objects and unique keys for all data entries.
    3. Tables with multiple columns, and each column contains its name and datatype.

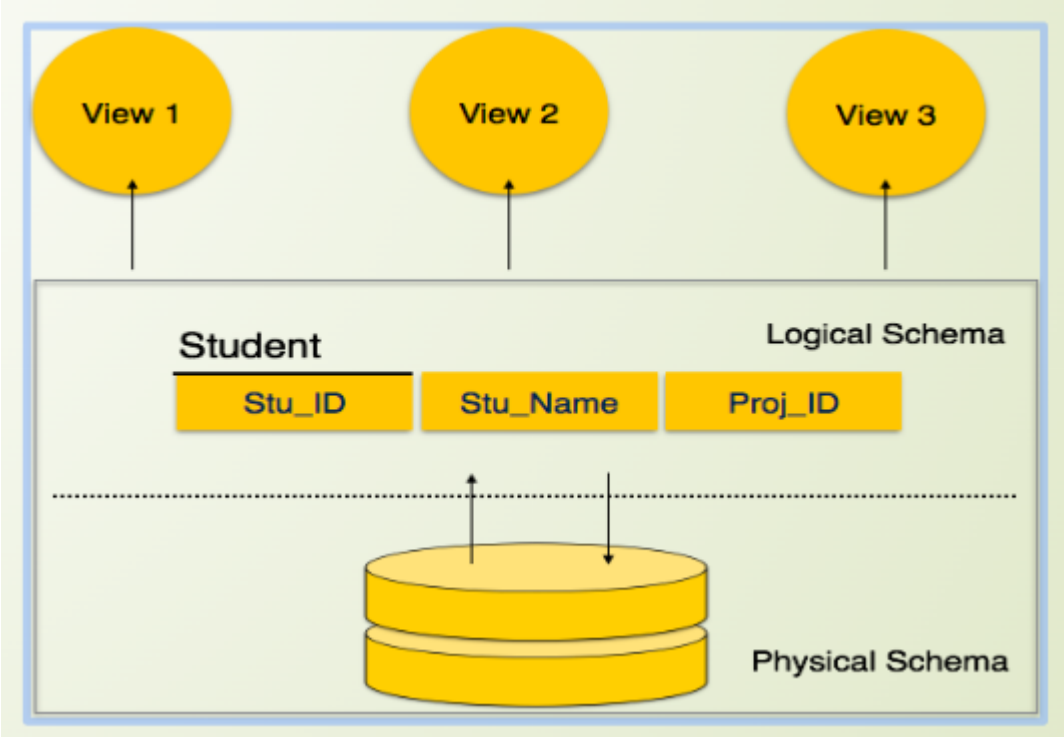


- The given diagram is an example of a database schema. It contains three tables, their data types. This also represents the relationships between the tables and primary keys as well as foreign keys.

Types

1. Physical Schema

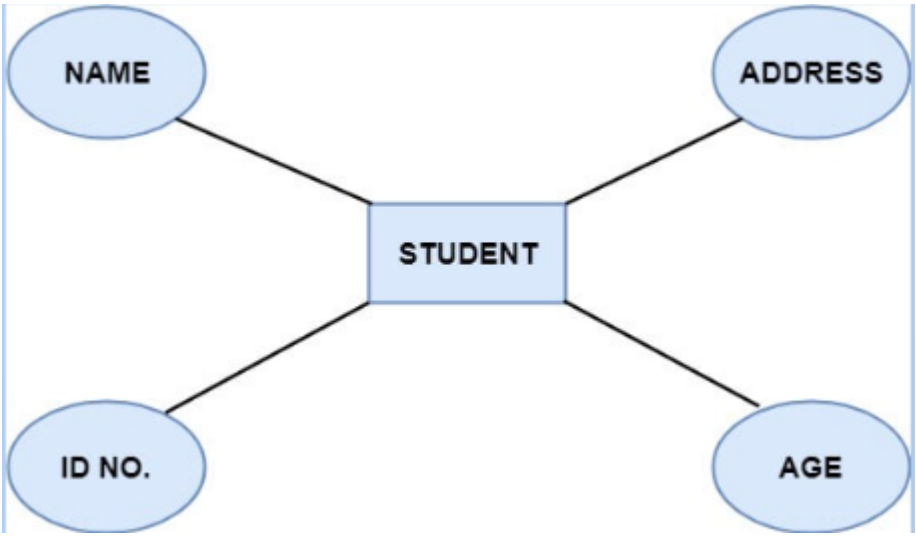
- A physical database schema specifies how the data is stored physically on a storage system or disk storage in the form of Files and Indices. Designing a database at the physical level is called a **physical schema.**
- Physical schema is a term used in data management to describe how data is to be represented and stored (files, indices, et al.) in secondary storage using a particular database management system (DBMS).



2. Logical Schema

- The Logical database schema specifies all the logical constraints that need to be applied to the stored data.
- It defines the views, integrity constraints, and table.
- The logical schema represents how the data is stored in the form of tables and how the attributes of a table are linked together.
- Various tools are used to create a logical database schema, and these tools demonstrate the relationships between the component of your data; this process is called **ER modelling.**

The ER modelling stands for entity-relationship modelling, which specifies the relationships between different entities.



View Schema

• The view level design of a database is known as **view schema**. This schema generally describes the end-user interaction with the database systems.