

# Key Components of a Database Schema

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1. **Tables:**
  - Represent entities in the database (e.g., Students, Courses, Patients).
  - Defined with columns (fields) and rows (records).
2. **Fields (Columns):**
  - Specify the type of data stored (e.g., name, age, ID).
  - Each column has a data type (e.g., INTEGER, VARCHAR, DATE).
3. **Relationships:**
  - Define how tables are connected using **keys**:
    - **Primary Key:** A unique identifier for each record in a table.
    - **Foreign Key:** A reference to a primary key in another table.
4. **Constraints:**
  - Rules that ensure data integrity and accuracy:
    - **NOT NULL:** Ensures a column cannot have null values.
    - **UNIQUE:** Prevents duplicate values in a column.
    - **CHECK:** Ensures a column satisfies a specific condition.
    - **DEFAULT:** Assigns a default value to a column if no value is provided.
5. **Views:**
  - Virtual tables created by querying data from one or more tables.
6. **Indexes:**
  - Improve query performance by enabling faster search and retrieval of data.