**Data Integrity:** These are the constraints or the rules that are applied at the schema level to ensure the correctness, consistency and reliability of data stored in the tables.

Types of Integrity constraints:

1. Domain Integrity: Enforced by **DATA TYPES** and **CONSTRAINTS**.

Constraints: These are certain rules that have been applied on the columns at the time of creating the table.

* 1. Primary Key
  2. Foreign Key
  3. Check
  4. Not Null
  5. Unique
  6. Default

1. Entity Integrity: This ensures that each table has a primary key and that key is **UNIQUE** and **NOT NULL**.
2. Referential Integrity: Ensured by the **FOREIGN KEY**.

**Generalization**: This is a bottom to top approach in which two or more lower level entities can combine to form a higher level entity.

Ex: ‘Faculty’ entity and ‘Student’ entity both can be combined to form ‘Persons’ entity.

Faculty + Student **IS A** Person.

**Specialization**: It is a top to bottom approach in which one higher level entity is decomposed to lower level entities.

Ex: ‘Persons’ entity can be subdivided into ‘Staff’ entity and ‘Patients’ entity.

Further, ‘Staff’ can be decomposed into ‘Doctors’ entity and ‘Nurses’ entity.

The relationship between generalized and specialized entities is represented by an **inverted triangle**.

**SQL**

SQL is known as **Structured Query Language** which is used to communicate with **databases**.

It is used to **CREATE**, **INSERT**, **UPDATE**, **READ**, **DELETE**, and **manage** the date in databases.

SQL is a query language used to manage, access the structured databases.

It performs **CRUD** operations:

**C** → Create

**R** → Read

**U** → Update

**D** → Delete

To perform the CRUD operations certain commands are needed.

1. DDL: Data Definition Language
2. DML: Data Manipulation Language
3. DQL: Data Query Language
4. DCL: Data Control Language
5. TCL: Transaction Control Language