

Relational model – It is the most common data model sorts the data into tables, also known as relations, each of which consists of columns and rows. Within the database, tables can be normalized, or brought to comply with normalization rules that make the database flexible, adaptable, and scalable. Relational databases are typically written in Structured Query Language (SQL).

Hierarchical model – This model organizes data into a tree-like structure, where each record has a single parent or root. Sibling records are sorted in a particular order. That order is used as the physical order for storing the database.

Network model – The network model builds on the hierarchical model by allowing many-to-many relationships between linked records, implying multiple parent records. Based on mathematical set theory, the model is constructed with sets of related records. Each set consists of one owner or parent record and one or more member or child records. A record can be a member or child in multiple sets, allowing this model to convey complex relationships.

Object-oriented model – This model defines a database as a collection of objects, or reusable software elements, with associated features and methods. There are several kinds of object-oriented databases:

- A multimedia database incorporates media, such as images, that could not be stored in a relational database.
- A hypertext database allows any object to link to any other object. It is useful for organizing lots of disparate data, but it's not ideal for numerical analysis.

Entity-relationship model – This model captures the relationships between real-world entities much like the network model, but it is not as directly tied to the physical structure of the database. Instead, it is often used for designing a database conceptually. Here, the people, places, and things about which data points are stored are referred to as entities, each of which has certain attributes that together make up their domain.