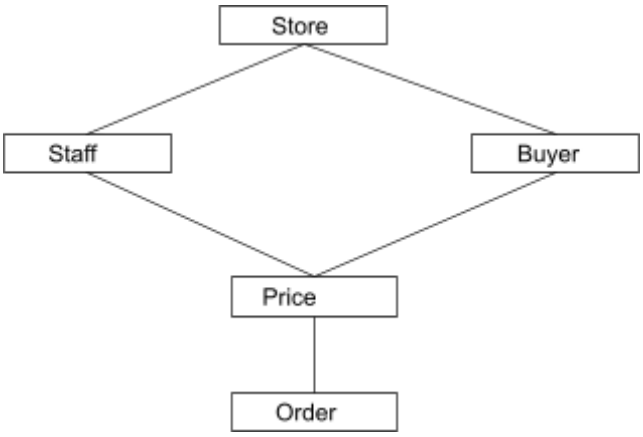
Network Database:

A network database is a modified form of Hierarchical Database in which a member entity (similar to child entity in a hierarchical database) can have multiple relations with different owner entities (similar to parent entity in hierarchical database).

Let's try to visualise this with simple example:



Here, we can view that the entity Store has relationship with two entities i.e. Staff and Buyer whereas Price entity has relationship with two entities i.e Staff and Buyer. Now In this specific example Store is an owner entity of entities staff and Buyer and similarly, entity staff and entity Buyer are owner entities for Price entity.

Therefore, In the network database model one owner can be related to multiple member nodes and every member node can have multiple owner nodes.

Advantages:

- It's design is simple to comprehend.
- Can handle multiple types of relationships i.e. one to one, one to many, many to many which makes it more suitable to tackle the real world problems.
- Data can be accessed quickly due to the links present between the relations.
- Data Integrity is maintained as no member entity can exist without an owner entity.

Disadvantages:

- Complex Schema due to all multiple relationships.
- Will have deletion, update anomalies due to so many relationships.
- Maintaining a Network Database is a tedious job.
- Not much Community Support.

Some examples of Network databases are Integrated Data Store (IDS), IDMS (Integrated Database Management System), Raima Database Manager, TurboIMAGE, Univac DMS-1100.

Difference between Hierarchical, Network and Relational Data Model:

Relational Data Model	**Hierarchical Data Model**	**Network Data Model**	**Object-Oriented Data Model**
Records are stored in tables.	Records are stored in a tree structure.	Records are stored in the form of graphs.	Records are stored in the form of objects.
It provides data independence.	It lacks Data Independence.	Provides Partial Data Independence.	It supports Data Encapsulation.
Can implement multiple relationships like one to one, one to many, many to many.	Can implement few relationships like one to one, one to many. It's not capable of working with many to many relationships.	Can implement multiple relationships like one to one, one to many, many to many.	Can implement multiple relationships like one to one, one to many, many to one, many to many