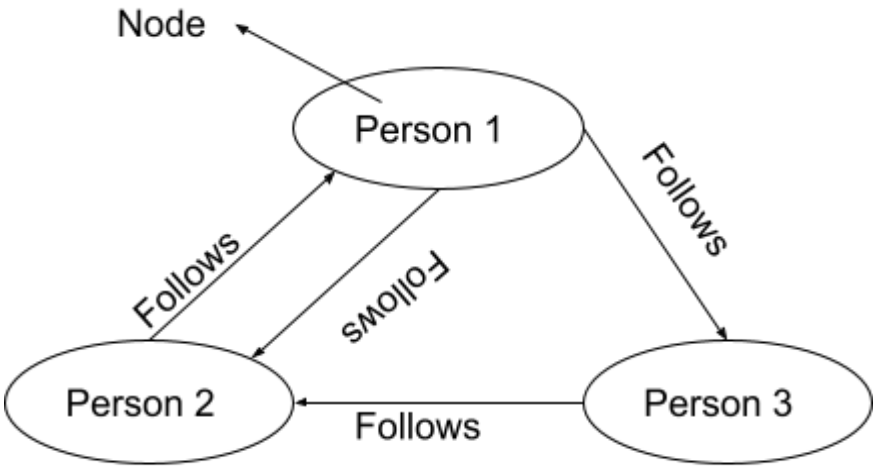
Graph Based NoSQL:

It's a collection of related objects. Each node in the graph represents an entity, where all of them are interconnected, the edge through which nodes are connected defines relationships among them.
Let's try to visualise it:



Here, Person 1 and Person 2 and Person 3 are entities and the edge that connects them is a relationship.
Above is a social network of their instagram handles.
Here, Relationships can hold more details like, when did person 1 followed person 3 and when did he/she followed back person Person 2.
Hence, relationships also can hold multiple details to define it.

- **How do they work ?**
  Here, nodes and edges i.e. entity and relationship hold on to certain properties like nodes depict properties similar to that of tables or JSON documents and relationship is defined with properties like it's history, it's type and how much strength it withholds.

  We can perform operations like addition or removal or nodes or relationships although the only thing that we need to take care of is when we remove a node, all relationships associated with it also get deleted as a relationship always intends to have a start and end node. We also know this as a core rule called 'No Broken Lines'.

➢ Graph based NoSQL Database - *Neo4j*

- **Benefits of Graph based Database:**
    - Highly scalable
    - Multiple query languages, like Neo4j uses Cypher query language.
    - Flexible schema to work with
    - Query speed usually depends on the number of relationships and is independent of the amount of data to be processed.

- **Limitations:**
    - No standard query language available, each database has it's own
    - Multiple reads but only single write transaction provision, leads to poor performance and concurrency.

- **Real Life applications where Graph based Database is used:**
    - ➢ It can work really well when working on social networks.
    - ➢ It can be used to support transportation systems as well.
    - ➢ It can be used to detect fraud in transactions.
    - ➢ It can be used to store criminal network data.