1. What are document databases?
2. What are collections?
3. What are the key differences between relational and non-relational database structures?

A document is a grouping of key pair values that in relational databases we would call a row. A document database is one that uses documents. In a relational database, every value is stored in every row, but in a NoSQL database if a value isn’t present in every document, it’s ok. For that reason not every document in a document database will have the same keys and values, but they should be similar. Maybe a user doesn’t have a favorite color saved, but others do. When we would try to recall that user’s favorite color we’d see the key value pair doesn’t exist and just assume one wasn’t set.

A collection is akin to a table in a relational database. It is a grouping of rows (or in this case documents) that serve a similar purpose. Not all documents will have the same data, but they should be similar. A collection may be a group of documents describing users. Each document in a collection needs a unique identifier or primary key to differentiate it from other entries. This is similar to how tables in relational databases work, with the main difference being that not every document (row) has to have the same set of information. This can help improve performance of the database since only information that is actually stored in a document needs to be retrieved. In a relational database, though, even entries that were blank or NULL would need to be returned from a query which costs CPU, memory, and storage (space has to be set aside in relational databases even for fields that will never be filled).