What is a NoSQL database and why are they needed?

▶ As per [Wikipedia](), a NoSQL database provides a mechanism for storage and retrieval of data that is modelled in means other than the tabular relations used in relational databases

▶ NoSQL is a non-relational database management system that does not require a fixed schema, avoids joins and easy to scale

▶ They are particularly useful for distributed data stores with huge data storage needs

▶ NoSQL systems are also sometimes called "Not only SQL" to emphasize that they may support SQL-like query languages, or sit alongside SQL databases in architectures that support different data storage technologies to handle different data storage needs within a given software application

▶ NoSQL databases are increasingly used in big data and real-time web applications in companies like Twitter, Facebook, Google that collect terrabytes of user data each day

▶ The relational database approach strives for as normalized data as possible; tables with foreign key relationships

▶ With a NoSQL database, one can simply get away with storing the entirety of the object in a single document.