Q1: What is MongoDB?

MongoDB is a NoSQL database management system designed for high scalability, flexibility, and performance. It stores data in a document-oriented format using BSON (Binary JSON), which provides a more dynamic and schema-less approach to handling data compared to traditional relational databases.

MongoDB is built to handle large volumes of unstructured or semi-structured data, making it suitable for modern applications like e-commerce platforms, social networks, and content management systems. It enables developers to store data as key-value pairs or nested documents, allowing hierarchical relationships to be modeled more naturally without requiring complex joins.

Q2: What is the difference between MongoDB and SQL?

- **Structure and Storage:** MongoDB is a NoSQL database that stores data in JSON-like documents, allowing for a schema-less design. In contrast, SQL databases use a tabular format with a predefined schema.
- **Flexibility:** MongoDB offers dynamic schema, making it ideal for applications where the data structure may evolve. SQL databases enforce rigid schema definitions, which must be adhered to when storing data.
- **Joins and Relationships:** In MongoDB, relationships between data are often embedded within documents to optimize performance. SQL databases rely heavily on table joins to model relationships.
- **Scalability:** MongoDB is designed to scale horizontally by adding more servers. SQL databases primarily scale vertically, which involves adding more hardware resources to a single server.
- **Query Language:** MongoDB uses a JavaScript-like query language for operations, while SQL databases use the structured SQL query language.