Mongo

1. Q: What type of database is MongoDB?

   a) Relational database

   b) Document-oriented database

   c) Key-value store

   d) Graph database

   Answer: b) Document-oriented database

   Justification: MongoDB is a document-oriented NoSQL database that stores data in flexible, JSON-like documents.

2. Q: What is BSON?

   a) A query language for MongoDB

   b) A binary representation of JSON-like documents

   c) A type of database index

   d) A language for defining database schemas

   Answer: b) A binary representation of JSON-like documents

   Justification: BSON is a binary format used by MongoDB to store and transmit data.

3. Q: Which language is commonly used to interact with MongoDB?

   a) SQL

   b) JavaScript

   c) Python

   d) Java

   Answer: b) JavaScript

   Justification: MongoDB uses JavaScript-based commands and queries to interact with the database.

4. Q: What is the primary purpose of an index in MongoDB?

   a) To enforce data integrity

   b) To define relationships between collections

   c) To improve query performance

d) To store large binary data

Answer: c) To improve query performance

Justification: Indexes in MongoDB improve query performance by allowing the database to locate data more efficiently.

5. Q: Which of the following is not a valid data model in MongoDB?

a) Key-value

b) Document

c) Columnar

d) Graph

Answer: c) Columnar

Justification: MongoDB does not have a native columnar data model. It supports key-value, document, and graph-like data models.

6. Q: What is sharding in MongoDB?

a) The process of backing up data

b) The process of splitting data across multiple servers

c) The process of encrypting data

d) The process of replicating data

Answer: b) The process of splitting data across multiple servers

Justification: Sharding in MongoDB involves distributing data across multiple servers to improve scalability.

7. Q: Which of the following is true about MongoDB transactions?

a) MongoDB supports full ACID-compliant transactions.

b) MongoDB does not support transactions.

c) MongoDB only supports single-document transactions.

d) MongoDB supports multi-document transactions with limitations.

Answer: d) MongoDB supports multi-document transactions with limitations.

Justification: MongoDB introduced multi-document transactions starting from version 4.0, but they have some limitations compared to traditional ACID transactions.

8. Q: What is the primary benefit of denormalization in MongoDB?

   a) Reducing storage space requirements

   b) Simplifying data querying and retrieval

   c) Ensuring data consistency and integrity

   d) Enforcing strict schema rules

   Answer: b) Simplifying data querying and retrieval

   Justification: Denormalization in MongoDB improves performance by embedding related data together, eliminating the need for complex joins.

9. Q: Which command is used to create a new collection in MongoDB?

   a) CREATE COLLECTION

   b) MAKE COLLECTION

   c) INSERT COLLECTION

   d) db.createCollection

   Answer: d) db.createCollection

   Justification: In MongoDB, the db.createCollection command is used to create a new collection.

10. Q: How does MongoDB handle horizontal scaling?

   a) By adding more resources to a single server

   b) By distributing data across multiple servers

   c) By compressing the database

   d) None

   Answer: b) By distributing data across multiple servers

MongoDB handles horizontal scaling by distributing data across multiple servers in a cluster. This approach is known as sharding. Sharding allows MongoDB to horizontally partition data and distribute it across multiple machines called shards.

11. Q: Which of the following is the primary unit of data in MongoDB?

   a) Row

   b) Document

   c) Column

   d) Table

Answer: b) Document

Justification: In MongoDB, a document is the primary unit of data, which is analogous to a row in a relational database.

12. Q: Which operator is used for performing aggregation in MongoDB?

a) $group

b) $match

c) $insert

d) $update

Answer: a) $group

Justification: The $group operator is used in MongoDB's aggregation framework to perform grouping and aggregation operations.

13. Q: What is the purpose of the $push operator in MongoDB?

a) To update a document in a collection

b) To add an element to an array field

c) To remove a document from a collection

d) To sort the documents in a collection

Answer: b) To add an element to an array field

Justification: The $push operator is used to add an element to an array field within a document.

14. Q: How does MongoDB handle schema changes for existing documents?

a) Automatically applies the changes to all existing documents

b) Requires manual updates to each document

c) Rejects the changes to maintain consistency

d) Supports schema migrations to update existing documents

Answer: b) Requires manual updates to each document

Justification: MongoDB does not automatically apply schema changes to existing documents, and manual updates are required.

15. Q: Which command is used to remove a document from a collection in MongoDB?

a) DELETE DOCUMENT

b) DROP DOCUMENT

c) REMOVE DOCUMENT

d) db.collectionName.remove

Answer: d) db.collectionName.remove

Justification: In MongoDB, the db.collectionName.remove command is used to remove documents from a collection.

16. Q: Which index type is suitable for efficiently querying geospatial data in MongoDB?

a) B-tree index

b) Text index

c) Geospatial index

d) Hash index

Answer: c) Geospatial index

Justification: MongoDB provides geospatial indexes to efficiently query and retrieve geospatial data.

17. Q: What is the purpose of the $lookup operator in MongoDB?

a) To perform text search on a collection

b) To join data from multiple collections

c) To filter documents based on specified criteria

d) To project only specific fields from a document

Answer: b) To join data from multiple collections

Justification: The $lookup operator in MongoDB allows for performing left outer joins and combining data from multiple collections.

18. Q: Which of the following is true about the "_id" field in MongoDB documents?

a) It is optional and automatically generated.

b) It must be a numeric value.

c) It must be unique within a collection.

d) It is used for sorting documents.

Answer: c) It must be unique within a collection.

Justification: The "_id" field in MongoDB documents is mandatory and serves as a unique identifier for each document within a collection.

19. Q: How does MongoDB handle data consistency in a replica set?

   a) By using a distributed consensus algorithm

   b) By applying changes asynchronously

   c) By electing a primary node for write operations

   d) By disabling write operations during replication

   Answer: c) By electing a primary node for write operations

   Justification: In MongoDB's replica

 set, one node is elected as the primary node, responsible for handling write operations and ensuring data consistency.

20. Q: Which MongoDB feature allows you to automatically partition data across multiple shards?

   a) Aggregation pipeline

   b) GridFS

   c) Atlas

   d) Sharding

   Answer: d) Sharding

   Justification: Sharding is a feature in MongoDB that enables automatic partitioning and distribution of data across multiple shards or servers.

21. Q: What is the purpose of the $sort operator in MongoDB?

   a) To specify the sorting order for query results

   b) To update the sorting order of documents in a collection

   c) To filter documents based on a specific sorting criterion

   d) To group documents by a sorting key

   Answer: a) To specify the sorting order for query results

   Justification: The $sort operator is used in MongoDB to define the sorting order of query results.

22. Q: Which of the following is not a valid data type in MongoDB?

a) String

b) Boolean

c) Float

d) DateTime

Answer: c) Float

Justification: MongoDB does not have a specific "Float" data type. Instead, it uses the "Double" data type for representing floating-point numbers.

23. Q: What is the purpose of the explain() method in MongoDB?

a) To retrieve detailed query execution statistics

b) To optimize query performance automatically

c) To generate random test data for the database

d) To view the database schema definition

Answer: a) To retrieve detailed query execution statistics

Justification: The explain() method in MongoDB provides information about query execution plans and performance statistics.

24. Q: Which MongoDB deployment option allows you to outsource database management and maintenance?

a) Single-node deployment

b) Sharded cluster

c) Replica set

d) MongoDB Atlas

Answer: d) MongoDB Atlas

Justification: MongoDB Atlas is a fully managed cloud service that handles database management and maintenance tasks for MongoDB deployments.

25. Q: Which of the following is an advantage of using MongoDB over a relational database?

a) Support for complex joins

b) Strict schema enforcement

c) High scalability and performance

d) ACID-compliant transactions

Answer: c) High scalability and performance

Justification: MongoDB's flexible data model, horizontal scalability, and performance optimizations make it well-suited for handling large-scale data and read-heavy workloads.