

# MongoDB

## Assignment Questions



# Theoretical Questions

1. What are the key differences between SQL and NoSQL databases?
2. What makes MongoDB a good choice for modern applications?
3. Explain the concept of collections in MongoDB.
4. How does MongoDB ensure high availability using replication?
5. What are the main benefits of MongoDB Atlas?
6. What is the role of indexes in MongoDB, and how do they improve performance?
7. Describe the stages of the MongoDB aggregation pipeline.
8. What is sharding in MongoDB? How does it differ from replication?
9. What is PyMongo, and why is it used?
10. What are the ACID properties in the context of MongoDB transactions?
11. What is the purpose of MongoDB's `explain()` function?
12. How does MongoDB handle schema validation?
13. What is the difference between a primary and a secondary node in a replica set?
14. What security mechanisms does MongoDB provide for data protection?
15. Explain the concept of embedded documents and when they should be used.
16. What is the purpose of MongoDB's `$lookup` stage in aggregation?
17. What are some common use cases for MongoDB?
18. What are the advantages of using MongoDB for horizontal scaling?
19. How do MongoDB transactions differ from SQL transactions?
20. What are the main differences between capped collections and regular collections?
21. What is the purpose of the `$match` stage in MongoDB's aggregation pipeline?
22. How can you secure access to a MongoDB database?
23. What is MongoDB's WiredTiger storage engine, and why is it important?

# Practical Questions

Dataset - [Superstore Dataset](#)

1. Write a Python script to load the Superstore dataset from a CSV file into MongoDB.
2. Retrieve and print all documents from the Orders collection.
3. Count and display the total number of documents in the Orders collection.
4. Write a query to fetch all orders from the "West" region.
5. Write a query to find orders where Sales is greater than 500.
6. Fetch the top 3 orders with the highest Profit.
7. Update all orders with Ship Mode as "First Class" to "Premium Class."
8. Delete all orders where Sales is less than 50.
9. Use aggregation to group orders by Region and calculate total sales per region.
10. Fetch all distinct values for Ship Mode from the collection.
11. Count the number of orders for each category.