MongoDB Intermediate Lab Exercises

1. Filtering & Query Operators

1. Find all customers from "New York".
2. Find all products with price > 500.
3. Find all customers aged between 30 and 40 (inclusive).

2. Projections

1. Retrieve all customer names and cities (exclude _id).
2. Retrieve product name and price only.

3. Sorting & Limiting

1. Get all products sorted by price descending.
2. Get the top 2 expensive products.

4. Aggregation Framework

1. Find the total number of orders per customer.
2. Find the total revenue from all orders.
3. Find the average product price by category.
4. Find which customer spent the most money (join orders + products).

5. Joins with $lookup

1. Get a list of orders with customer name and product name included.
2. Show all customers and their orders (even if no orders exist).

6. Update Operations

1. Increase the price of all 'Electronics' products by 10%.
2. Update customer 'Bob’s' city to 'Los Angeles'.
3. Add a new field 'loyaltyPoints: 0' to all customers.

7. Delete Operations

1. Delete all customers with age < 25.
2. Delete all orders placed before '2025-08-05'.

8. Indexing

1. Create an index on customers.city.
2. Create a compound index on products.category and price.
3. Explain the query plan for customers from 'New York'.

9. Array Operations

1. Find all products that have a review rating of 5.
2. Add a new review to 'Shoes'.
3. Update 'Alice's' review rating for 'Laptop' to 3.

10. Advanced Aggregation

1. Find the most sold product.
2. Find the city with maximum number of customers.
3. Find the total revenue per category (join orders + products).