Backend Quiz

Challenge 1

Write a Java program to solve this challenge. The program should find all unique triplets in the given array that sum up to the target sum.

Input: array, expected sum

Output: the array index of the two numbers whose sum equals the expected sum.

Challenge 2

The Quiz is about a simple sales management system, which should include product management, client management, sales operations management, reporting, and user authentication features.

Note: The implementation of these APIs should be done using **Spring Boot** framework following best practices, including data validation, error handling, security measures, and efficient database operations.

Required API's

Products Management

- 1. Fetch products and view id, name, description, category, creation date, available quantity, and price.
- 2. Create a new product with a name, description, category, initial quantity, and price.
- 3. Update the existing product's name, description, category, quantity, and price.
- 4. Delete a product from the inventory.

Clients Management

- 1. Fetch clients and view id, name, last name, mobile, email, and address.
- 2. Create a new client with name, last name, mobile, email, and address.
- 3. Update the existing client's name, last name, mobile, email, and address.
- 4. Delete a client from the database.

Sales

- 1. Fetch all sales operations and view id, creation date, client, seller, and total.
- 2. Create new sales with multiple transactions.
- 3. Edit quantities and prices of the sale.

Reporting

- 1. Generate a sales report for a specific date range, including the total number of sales, total revenue, top-selling products, and top-performing sellers.
- 2. Generate a client report showing the total number of clients, top-spending clients, client activity, and client location statistics.
- 3. Generate a product report with inventory status, sales performance, and pricing analysis.

Logging and Auditing

- 1. Log important system activities, including user actions, product updates, client updates, sales operations, and reporting.
- 2. Implement auditing mechanisms to track changes made to critical data, such as product price changes or client information updates.

Required Files

- 1- Class diagram file.
- 2- Github link or project zip file.