

## **Project Title: Fitness Club Automation**

**Github link :**

**<https://github.com/akshansha9/JAVA-FSD.git>**

### **Writeup :-**

Project Objective:

The primary objective of this project is to develop an application that automates the operations and management of a fitness club (gym). This application will streamline various processes within the fitness club, making it more efficient and user-friendly.

Background of the Problem Statement:

FitPro Pvt. Ltd., a leading fitness club management company, has entrusted you with the role of a Full Stack Developer to create an integrated solution for their fitness clubs. The need for this project arises from the complexity of managing a fitness club's daily activities, which include user management, gym trainer profiles, and financial transactions. The existing manual processes are prone to errors and inefficiencies, and the company seeks a modern and automated system to overcome these challenges.

## Project Tasks:

To achieve the project's objectives, several tasks need to be completed:

### 1. Database Development Using MySQL:

- Create a robust and scalable database using MySQL to store all relevant information, ensuring data integrity and security.

### 2. Code Development for Various Application Layers:

- Develop the code for different layers of the application, ensuring a well-structured and maintainable system.

### 3. Entity Layer:

- Create entities for gym trainers, subscribers, and users, establishing appropriate relationship mappings to represent the real-world connections between these entities accurately.

### 4. Repository Layer:

- Develop a repository layer to handle all database operations, ensuring efficient data retrieval, storage, and management.

## 5. Service Layer:

- Implement the service layer, demonstrating dependency injection to decouple components and following the interface segregation principle for cleaner and more maintainable code.

## 6. Controller Layer:

- Develop the controller layer to expose necessary APIs, including but not limited to:

- Adding gym trainers to the database
- Retrieving all profiles of gym trainers
- Retrieving a profile of a specific trainer
- Fetching subscription details of a customer
- Retrieving information about all subscribers of the gym
- Allocating a gym trainer to one or more subscribers
- Retrieving all subscribers mapped with a gym trainer
- Recording a fees payment of the subscriber

## 7. GitHub Repository:

- Push the source code of the project to a dedicated GitHub repository, allowing for version control, collaboration, and code management.

=====