Contents

Project Title:

Military Base Security & Operations Management System

Course Name:

Object-Oriented Programming (OOP) Concepts and Applications

Project Description:

The Military Base Security & Operations Management System is a simple management system to help manage and monitor military base activities. It will include features like managing personnel, units, inventory, gate security, and keeping logs. The system will be easy to use and will make managing tasks more efficient and secure.

Functionality and Features:

Personnel Management:

- o Add, update, and remove personnel records.
- o Assign roles and permissions to personnel.

Unit Management:

- o Manage military units (e.g., squads, teams, divisions).
- o Track unit assignments and operations.

Inventory Management:

- o Maintain inventory of resources, weapons, and supplies.
- o Generate reports for inventory usage and shortages.

Gate Security:

- o Monitor and control access to the base.
- o Log entries and exits of personnel and vehicles.

Access Logs:

- o Maintain detailed logs for all system activities.
- o Generate reports for security reviews.

Technology Stack:

- Backend Development: Java
- Frontend Development: Java Swing for the graphical user interface (GUI)

OOP Concepts Used:

- Classes and Objects: Represent entities like Personnel, Units, Inventory, and Logs.
- Encapsulation: Secure data by using private fields and public getters/setters.
- Inheritance: Create specialized classes for different roles (e.g., BaseCommander, SecurityOfficer).
- Polymorphism: Implement dynamic behavior for different types of users (e.g., commanders vs. officers).
- Interfaces: Define behaviors like `Manageable` for common management operations.
- Abstraction: Abstract complex operations like inventory tracking and logging into reusable methods.

Classes:

```
MilitaryBaseApp
    ├── LoginScreen
    ├── DashboardFrame
    ├── PersonnelManagement
    ├── UnitManagement
    ├── InventoryManagement
    ├── GateSecurity
    ├── AccessLogs
    ├── Personnel
    ├── Unit
    ├── InventoryItem
    └── LogEntry
```

Expected Time:
4 weeks

Group Members:

Sr. No.	Student Name	Registration Code
1	Huzaifa Asif	
2	Moiz Ur Rehman Minhas	
3	Huzaifa Abdul Rehman	
4	Muhammad Arsalan	