GALGOTIAS UNIVERSITY

TOPIC : BANKING MANAGEMENT SYSTEM

TEAM DETAILS:

NAME : YASH PRATAP SINGH(23SCSE1420016)

SAGAR SHARMA(23SCSE1420005)

SECTION : DS-1

COURSE : JAVA PROGRAMMING

COURSE CODE : EIUA307C

OBJECTIVE

- **User Authentication**: Implement secure user authentication (login/logout) for customers and bank staff.
- **Account Management**: Allow users to create, view, update, and delete accounts. This includes handling various account types (savings, checking, etc.).
- **Transaction Management**: Facilitate deposits, withdrawals, transfers, and transaction history. Ensure proper validation and error handling for each transaction type.
- **Loan Management**: Manage loan applications, approvals, and repayments, providing users with relevant information about interest rates and terms.
- **Customer Relationship Management**: Maintain customer details and profiles, enabling personalized services and communication.
- **Reporting**: Generate various reports for transactions, account balances, and customer activity for both users and administrators.
- **Security**: Implement security measures to protect sensitive information, including encryption for data storage and transfer.

PROBLEM STSTEMENT

- **User Authentication**: Users must be able to securely log in and log out of the system.
- **Account Operations**: The system must allow for the creation, modification, and deletion of different types of bank accounts (savings, checking, etc.).
- **Transaction Processing**: Users should be able to perform various transactions, including deposits, withdrawals, and transfers, while maintaining accurate transaction records.
- **Loan Management**: Users can apply for loans, track their application status, and manage repayments.
- **Customer Profiles**: The system will maintain detailed customer profiles and histories for better service delivery.

TECHNICAL STACKS

1. **JavaFX / Swing**: For building the graphical user interface (GUI) for desktop applications.
2. **HTML/CSS/JavaScript**: If creating a web-based application, these are essential for frontend development.
3. **Frameworks**:
    1. **React / Angular / Vue.js**: Popular JavaScript frameworks for building interactive user interface.
4. **Java SE**: The core Java platform for application logic.
5. **Java EE (Jakarta EE)**: For building enterprise-level applications, including features like RESTful services.
6. **Spring Framework**: A popular framework for building Java applications, especially for handling dependency injection, transaction management, and web services.
7. **Spring Boot**: Simplifies the setup and development of new Spring application
8. **MySQL**: A widely-used relational database management system (RDBMS).
9. **PostgreSQL**: An advanced open-source relational database known for its robustness.
10. **Hibernate**: A popular Object-Relational Mapping framework that simplifies database interactions
11. **Spring Security**: For securing the application and managing user authentication and authorization.

REFERENCES

- **Books**

1. **"Effective Java" by Joshua Bloch**
    1. A must-read for best practices and design patterns in Java.
2. **"Spring in Action" by Craig Walls**
    1. Comprehensive guide on using the Spring framework effectively.
3. **"Java Persistence with Hibernate" by Christian Bauer and Gavin King**
    1. Detailed insights into using Hibernate for database interactions.
4. **"Head First Java" by Kathy Sierra and Bert Bates**
    1. A beginner-friendly introduction to Java concepts.

THANKYOU