SRM INSTITUTE OF SCIENCE AND TECHNOLOGY

DEPARTMENT OF COMPUTATIONAL INTELLIGENCE
FACULTY OF ENGINEERING AND TECHNOLOGY
SCHOOL OF COMPUTING

PHASE-I PROJECT PORTFOLIO

PROJECT TITLE: Online Banking System

SUBMITTED BY: Aashish Kumar Yadav
UNDER THE GUIDANCE OF: Dr. Arun V

21CSC203P – Advanced Programming Practices

Kattankulathur, October 2025

About Me

I am **Aashish Kumar Yadav**, currently pursuing my B.Tech in Computer Science and Engineering (AI & ML) at SRM Institute of Science and Technology. As a second-year student, I have developed a deep interest in software engineering, object-oriented programming, and data-driven applications. My academic journey has strengthened my analytical and logical problem-solving abilities, while hands-on coursework has enhanced my skills in Java, Python, and MySQL integration.

I am passionate about building real-world software that combines technical precision with usability. The Online Banking System project reflects my interest in backend systems, secure database operations, and intuitive GUI development. Beyond academics, I continuously explore new technologies such as machine learning frameworks, API integration, and cloud deployment practices to broaden my technical perspective.

My long-term goal is to contribute to the field of secure software development and artificial intelligence, designing systems that are efficient, reliable, and user-centered.

Project Details

Project Title: Online Banking System

Tech Stack: Java, MySQL, JDBC, Java Swing

Project Description:
The **Online Banking System** is a secure, interactive, and user-friendly desktop-based banking application that provides users with a digital interface to perform essential financial transactions. It addresses the limitations of manual banking operations by automating tasks such as deposits, withdrawals, transfers, and account management through a Java-based system.

The primary objective of this project is to develop a modular and scalable application where users can safely manage their finances while ensuring data integrity and security. The project leverages Java Swing for GUI design, enabling an intuitive user interface, while MySQL serves as the backend database to store user and transaction details.

The development methodology followed a stepwise approach—starting from requirement analysis, database schema design, implementation of GUI modules, and integration through JDBC. Rigorous testing was conducted to ensure efficient performance and secure transaction handling. The project exemplifies core object-oriented concepts such as encapsulation, abstraction, and modularity.

Key Features:
• Secure login and user authentication with JDBC connectivity.
• Registration module enabling users to create accounts with personal credentials.
• Deposit, withdrawal, and fund transfer functionalities with real-time balance updates.
• Transaction history tracking for user transparency and audit purposes.
• Modular architecture with Presentation, Application, and Data layers ensuring scalability.
• User settings management for updating credentials and profile details.
• External bank integration providing quick access to websites like SBI, HDFC, and Kotak.
• High system performance with efficient database query optimization.
• Emphasis on UI simplicity for better usability and accessibility.

Future Scope:
The Online Banking System can be enhanced with several advanced technologies to meet modern banking demands. Future versions could integrate **AI-powered fraud detection** and **biometric authentication** (fingerprint and face recognition) for advanced security. Additionally, cloud-based deployment could enable multi-user access and cross-platform functionality, making the application accessible via mobile devices and web browsers.

Incorporating **blockchain technology** can further improve transaction transparency and traceability, while **machine learning modules** could offer personalized financial insights and spending analytics. As financial technology evolves, integrating chatbot support for customer queries and **API-based interoperability** with third-party payment systems would make the platform highly adaptive and future-ready.

Certificates & Achievements

MORNING SESSION (9.00 am)	National Programme on Technology Enhanced Learning	NPTEL
Hall Ticket For	Programming In Java	

NPTEL generated Hall ticket

Candidate Name	Aashish Kumar Yadav				
Roll No	NOC25CS110S375001056		Seating Number	27	
Registered E-Mail ID	ay5561@srmist.edu.in				
Date of Birth	20-02-2007				
PwD Status	N/A	Compensatory Time Required	N/A	Scribe Required	N/A
Exam Date	Saturday, 25 October, 2025				
Reporting Time	08:00 am	Gate Closure	09:30 am		
Exam Timing	09:00 am	Shift	Forenoon		
Test Centre Name	AB1 - 404A - Programming Language Lab - I				
Test Centre Address	VANDALOOR,KELAMBAKKAM ROAD, CHENNAI ,TAMIL NADU- 600127				

NPTEL COORDINATOR

NPTEL EXAM - 25 OCTOBER, 2025
General instructions for candidates
(All timings mentioned here are in IST)

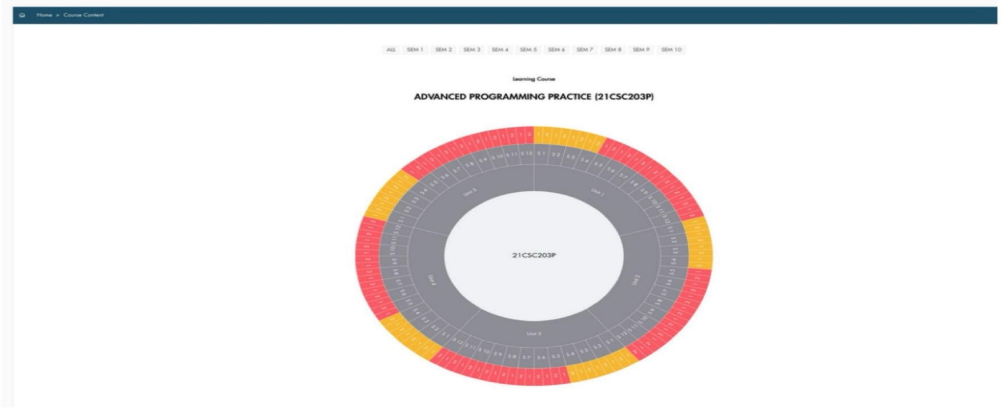
The total duration of the examination is 180 minutes.
It is mandatory for students to remain seated till 90 minutes from the start of the exam.
Students will not be permitted to leave the exam hall prior to this.

HALL TICKET AND ENTRY:

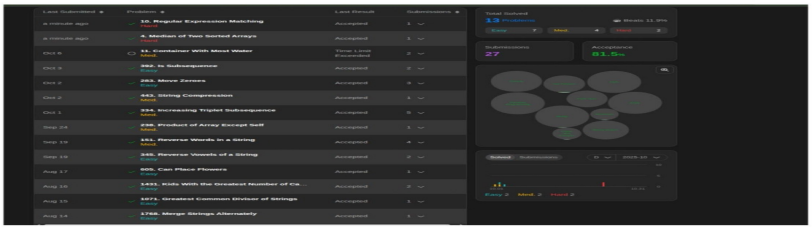
1. Entry into exam hall - ID card: You will need to bring an ID card to the exam hall in order for us to verify your details shown in your hall ticket. The ID card should be a government issued ID card that shows your name, DOB, photo and signature. Without this, you will not be allowed to enter the exam hall.
2. Hall ticket and signing the attendance sheet: Candidates have to bring one hard copy of the hall ticket to be verified at the entry point, along with your ID card. Once you are seated, the invigilator will again verify your ID card and give you an attendance sheet to sign. Do not write anything on the hall ticket. You also need to return the hall ticket to the invigilator.
3. TIMELINE: 8:00 am - Report to the examination venue | 8:40 am – Candidates will be permitted to occupy their allotted seats| 8:50 am – Candidates can login and start reading the instructions prior to the examination | 9:00 am - Exam starts | 9:30 am - Gate closes, candidates will not be allowed after this time | 10:30 am Submit button will be enabled; candidates who have completed the exam will be allowed to leave the exam hall | 12:00 pm exam ends.

P.T.O.

E-Curricula completion



LEETCODE PROBLEM COMPLETION:



Conclusion

The **Online Banking System** project demonstrates the successful implementation of a secure and efficient digital banking platform that automates traditional banking operations. Through the use of Java Swing and MySQL, the project integrates backend data handling with an intuitive user interface, emphasizing both functionality and user experience.

This project has strengthened my understanding of software design, modular programming, and secure database management. It has also highlighted the importance of user-centric design and performance optimization. The completion of this project marks a significant academic milestone, showcasing practical application of theoretical knowledge in software engineering and system design.

With continuous improvement and integration of emerging technologies, this project has the potential to evolve into a comprehensive digital banking solution suitable for educational and professional deployment.

GitHub: To be added later