RAJALAKSHMI ENGINEERING COLLEGE

RAJALAKSHMI NAGAR, THANDALAM-602 105

CS23333 OOPS Using Java

Laboratory Record Note Book

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Year / Branch / Section : 2ND YEAR \ CSE

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College Roll No. : 240701039

Semester : III

Academic Year : 2025 - 2026

RAJALAKSHMI ENGINEERING COLLEGE

An Autonomous Institution

BONAFIDE CERTIFICATE

Name: ……ANIRUDH R……

Academic Year: ……2025-2026…… **Semester:** ……III…… **Branch:** ……CSE……

Register No. 2116240701039

Certified that this is the bonafide record of work done by the above student in the.....Laboratory during the academic year 2025- 2026

Signature of Faculty in-charge

Submitted for the Practical Examination held on……

Internal Examiner **External Examiner**

INDEX

EX.NO	DATE	NAME OF THE EXPERIMENT	GITHUB QR
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2		Control Structures	
3		Arrays	
4		Strings	
5		Classes & Objects	
6		Inheritance	
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ABSTRACT

The **Salary Management System** is a software application designed to automate and simplify the process of managing employee salary records within an organization. The system ensures accuracy, efficiency, and security in handling payroll data by integrating a **Java-based front end** with a **SQL database back end**.

The front end, developed using **Java**, provides an interactive and user-friendly interface for administrators and HR personnel to manage employee details, salary structures, deductions, bonuses, and attendance-related inputs. The back end, built on **Structured Query Language (SQL)**, securely stores and retrieves employee information, payroll details, and transaction histories while maintaining data integrity and consistency.

The system automates salary calculations based on predefined parameters such as basic pay, allowances, and deductions, thus minimizing human errors. It also generates reports and payslips, ensuring transparency and easy record-keeping. Additionally, the system allows quick updates and retrieval of data, supporting efficient decision-making and reducing manual workload.

Overall, the Salary Management System enhances organizational productivity by offering a reliable, scalable, and secure solution for payroll management, bridging the gap between HR operations and data-driven management through the seamless integration of **Java and SQL technologies**.

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CHAPTER 1

INTRODUCTION

1.1 Introduction

The **Salary Management System** is a software application developed to automate and manage all salary-related operations within an organization. In traditional payroll systems, salary calculations, record maintenance, and report generation are often done manually, which leads to errors, data inconsistency, and time inefficiency. To overcome these challenges, the Salary Management System provides a computerized solution that simplifies the entire payroll process.

1.2 Scope of the Work

The scope of this project includes the development of a complete salary management solution for small to medium-sized organizations. The system automates employee data handling, salary computation, and report generation. It also allows for easy modification of salary details, viewing of payment history, and generation of payslips.

1.3 Problem Statement

In many organizations, salary management is still handled manually using spreadsheets or paper-based systems. This manual process is time-consuming, error-prone, and lacks security and consistency. Errors in salary calculations, difficulties in maintaining records, and delays in report generation often lead to employee dissatisfaction and reduced productivity.

Therefore, there is a need for an automated system that can handle all salary-related processes efficiently, accurately, and securely — ensuring smooth and transparent payroll management.

1.4 Aim and Objectives of the Project

The specific objectives of the project are:

- To develop a computerized system for managing employee salary records.
- To automate salary calculations based on employee details, allowances, and deductions.
- To store and retrieve employee data securely using an SQL database.
- To generate payslips and reports quickly and accurately.
- To reduce manual effort, errors, and paperwork in the payroll process.
- To improve efficiency and transparency in salary management operations.

CHAPTER 2

SYSTEM REQUIREMENTS

Hardware Requirements:

• Processor: Intel i3 or higher

• RAM: 4GB or above

• Hard Disk: 500MB free space

Software Requirements:

• OS: Windows 10 or above

• IDE: IntelliJ IDEA / Eclipse

• Frontend: Java Swing

• Backend: MySQL

• Connector: MySQL JDBC Connector (.jar)

CHAPTER 3

MODULE DESCRIPTION

The Salary Management System is divided into several functional modules to ensure smooth operation, easy maintenance, and clear separation of tasks. Each module performs a specific function and interacts with other modules through a shared database. The modular design improves system efficiency, scalability, and reliability.

3.1 INTRODUCTION

The **Salary Management System** is divided into several functional modules to ensure smooth operation, easy maintenance, and clear separation of tasks. Each module performs a specific function and interacts with other modules through a shared database. The modular design improves system efficiency, scalability, and reliability.

3.2 LIST OF MODULES

The main modules of the Salary Management System are:

1. **Login Module**
2. **Employee Management Module**
3. **Salary Calculation Module**
4. **Deduction and Allowance Module**
5. **Report Generation Module**
6. **Database Management Module**

3.3 MODULE DESCRIPTION

1. Login Module

This module provides secure access to the system. Only authorized users such as administrators or HR staff can log in using valid credentials. It ensures data security and prevents unauthorized access.

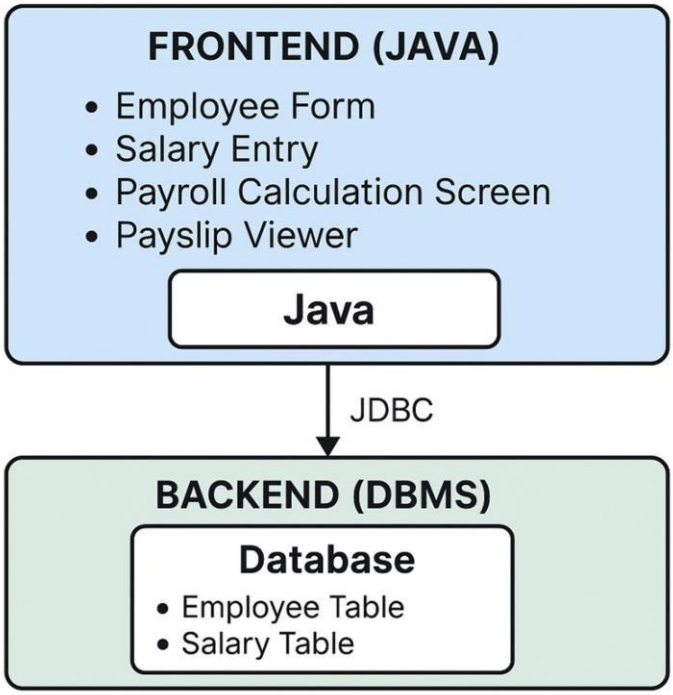
2. Employee Management Module

This module handles all employee-related information, including adding, updating, viewing, and deleting employee records. It stores personal and job details in the SQL database for easy retrieval.

CHAPTER 4

SYSTEM DESIGN

The Salary Management System uses a Java-based frontend to handle user interactions like salary entry and payslip viewing.
It connects to a DBMS backend via JDBC to store and manage employee and salary data.
This design ensures efficient data processing, secure storage, and smooth payroll management.

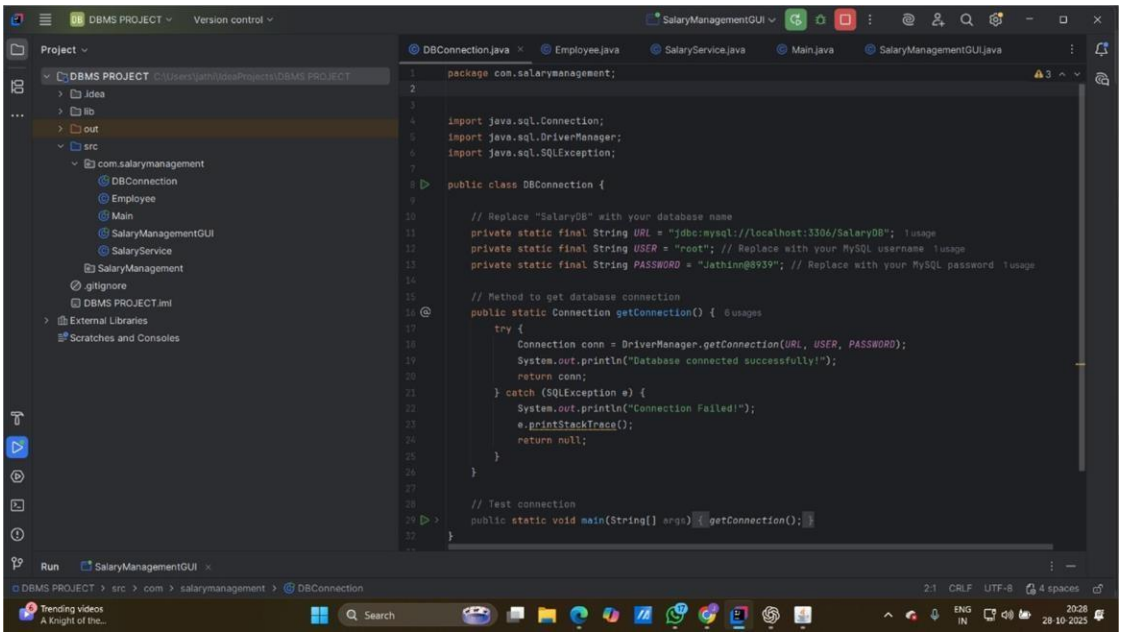


CHAPTER 5:

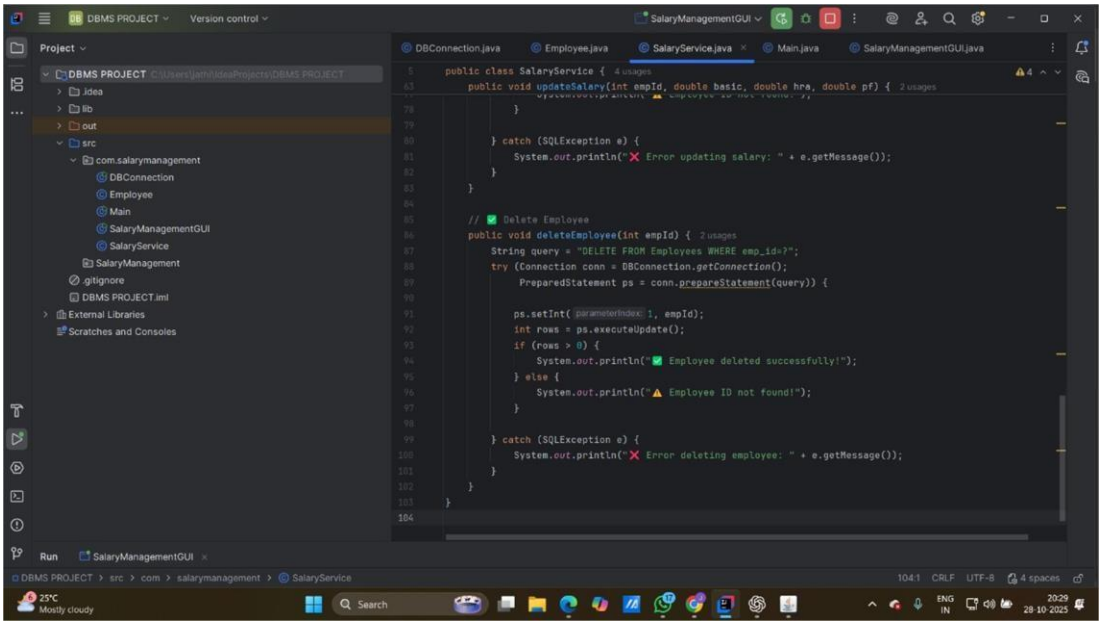
IMPLEMENTATION

The implementation of this code focuses on connecting the Java application to a MySQL database.It defines a method to establish the connection using JDBC by specifying the database URL, username, and password.

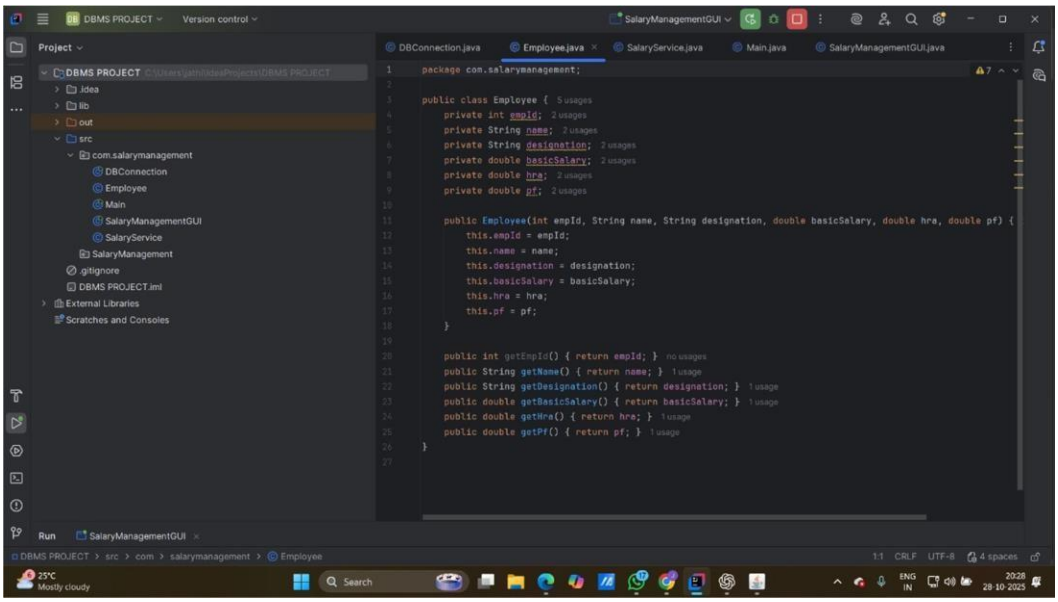
DBCONNECTION CODE:



SALARY SERVICE CODE:

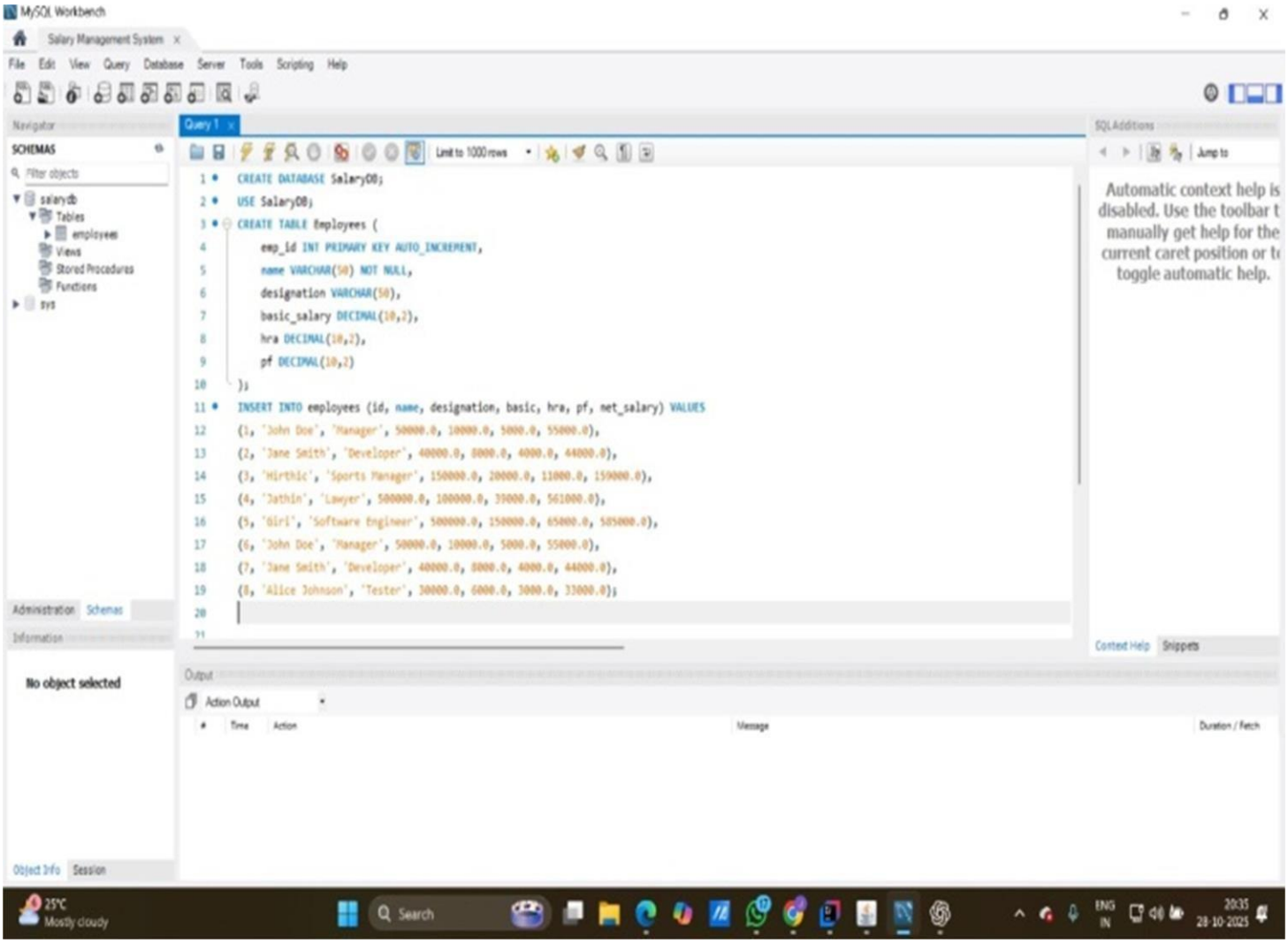


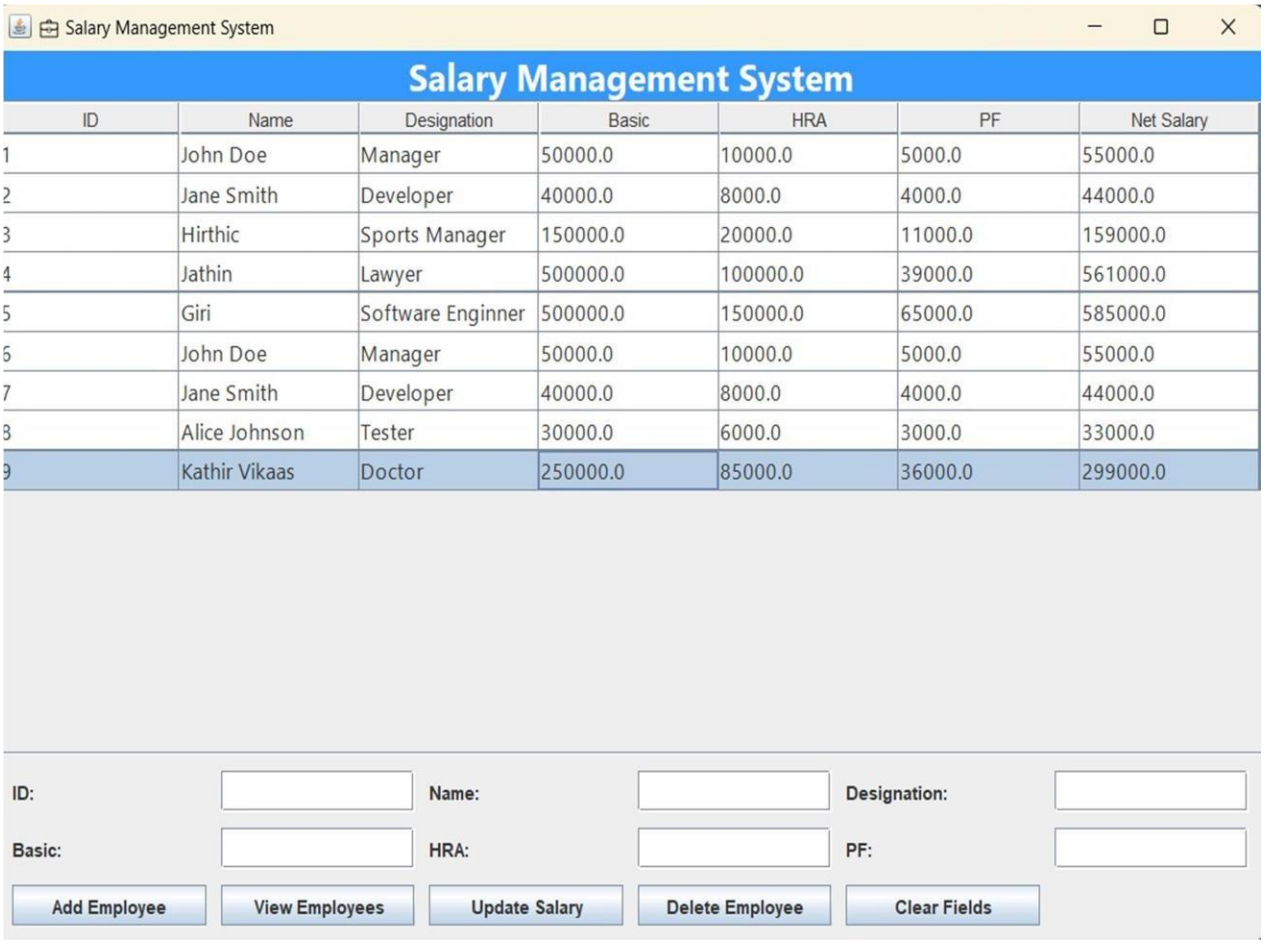
EMPLOYEE CODE:

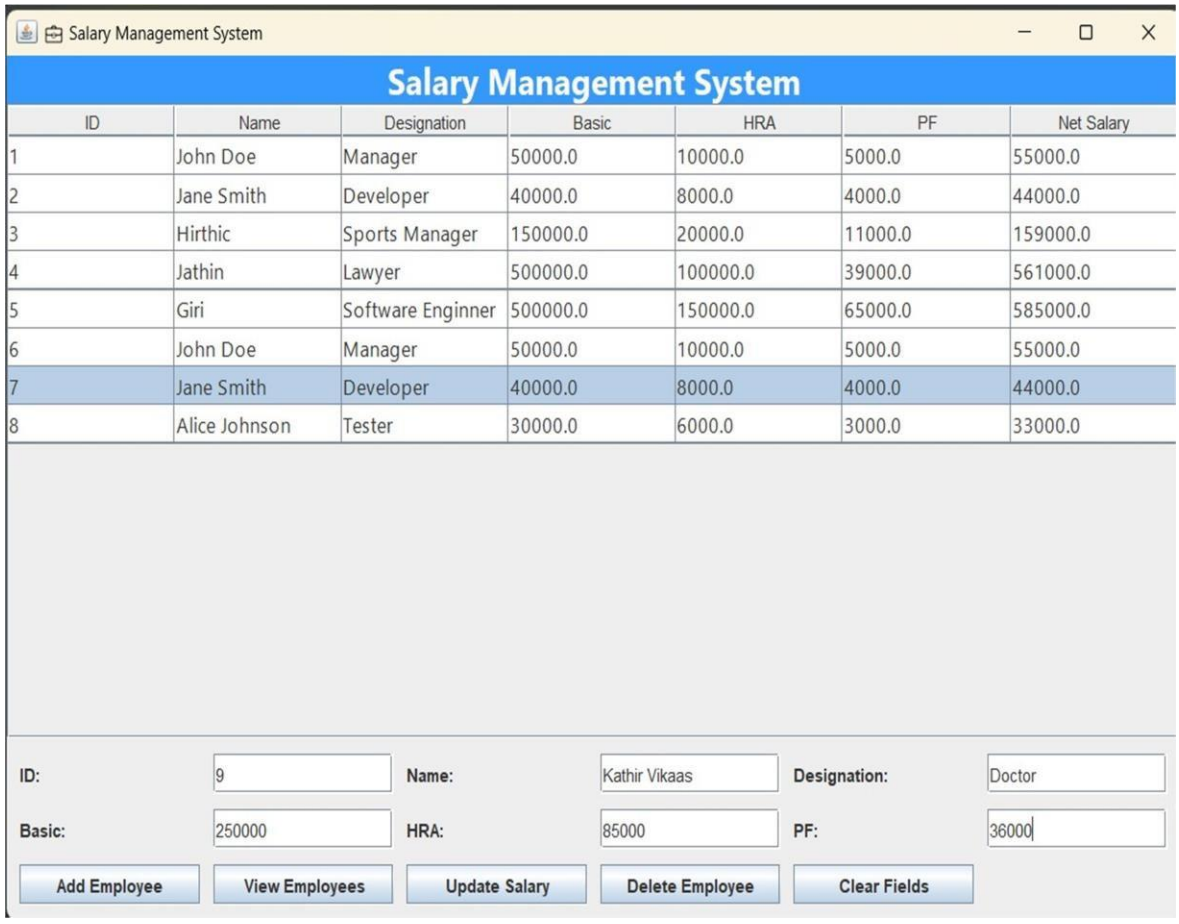


CHAPTER 6

SCREENSHOTS




Salary Management System
Salary Management System
ID Name Designation Basic HRA PF Net Salary
1 John Doe Manager 50000.0 10000.0 5000.0 55000.0
2 Jane Smith Developer 40000.0 8000.0 4000.0 44000.0
3 Hirthic Sports Manager 150000.0 20000.0 11000.0 159000.0
4 Jathin Lawyer 500000.0 100000.0 39000.0 561000.0
5 Giri Software Enginner 500000.0 150000.0 65000.0 585000.0
6 John Doe Manager 50000.0 10000.0 5000.0 55000.0
7 Jane Smith Developer 40000.0 8000.0 4000.0 44000.0
8 Alice Johnson Tester 30000.0 6000.0 3000.0 33000.0
9 Kathir Vikaas Doctor 250000.0 85000.0 36000.0 299000.0
ID:
Name:
Designation:
Basic:
HRA:
PF:
Add Employee
View Employees
Update Salary
Delete Employee
Clear Fields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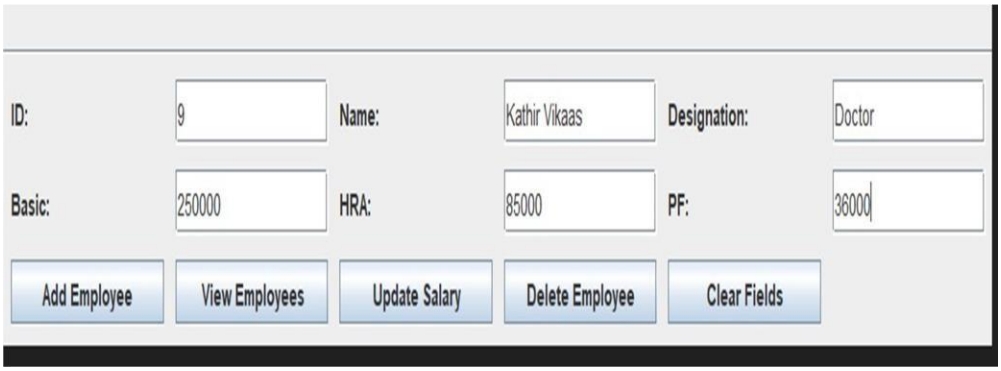
6 John Doe Manager 50000.0 10000.0 5000.0 55000.0
7 Jane Smith Developer 40000.0 8000.0 4000.0 44000.0
8 Alice Johnson Tester 30000.0 6000.0 3000.0 33000.0
ID: 9
Name: Kathir Vikaas
Designation: Doctor
Basic: 250000
HRA: 85000
PF: 36000
Add Employee
View Employees
Update Salary
Delete Employee
Clear Fields


ID:
9
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250000
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CHAPTER 7

CONCLUSION AND FUTURE ENHANCEMENTS

Conclusion:

The Salary Management System simplifies and automates the process of managing employee salary details. It ensures accurate calculations, secure data handling, and efficient record management through the integration of Java for the frontend and a DBMS for the backend. The system reduces manual effort, minimizes errors, and improves overall payroll efficiency within an organization.

Future Enhancements:

- Integrate biometric or attendance tracking systems for automated salary computation.
- Add online access for employees to view payslips and salary history.
- Include tax, loan, and bonus management modules.
- Implement data encryption and user role-based access for improved security.
- Develop a mobile or web-based version for remote access and real-time updates.

CHAPTER 8

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4. Online Java and JDBC resources.