

# **Sunanda Infotech Pvt Ltd**

IT Consultancy & Services

**SNJB's**

**Shri Hiralal Hastimal (Jain Brothers ,Jalgaon)**

# **Bank Management System**

Developed in python with mySQL

Guided by :  
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Project Group Members :  
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Nashik : 04/07/2025

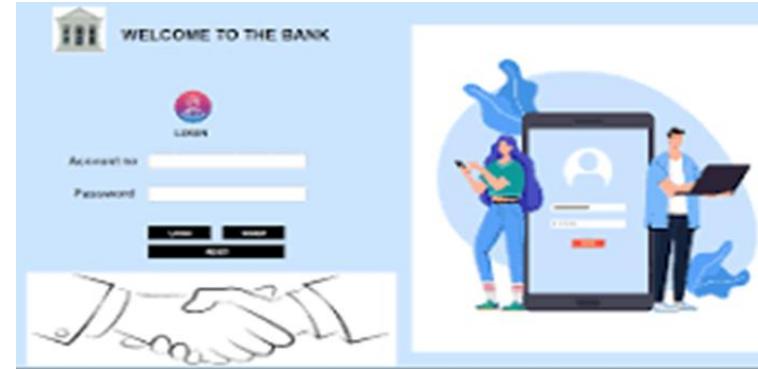
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# INTRODUCTION

## Why there is a need of bank management system?

- Efficiency and speed
- Anytime availability
- Improved decision making
- Customer convenience
- Accuracy and security



This system allows users to perform basic banking functions like:

- Registering a bank
- Creating user account
- Depositing & withdrawing money
- Transferring money
- Viewing balance

## ➤ Problem Statement

- Manual banking processes are slow and prone to errors.
- Lack of secure login and password protection.
- No digital platform for account management and transactions.
- Customers can't easily track transaction history.
- No data visualization to understand user balances.
- Need for an efficient, secure, and digital banking system.

## ➤ OBJECTIVE

- To replace manual banking with a digital system
- To make banking operations faster , paperless, and less error prone
- To allow both bank and users to interact via a simple console based system
- To track and store all the transactions
- To ensure security using password hashing

## ➤ SCOPE

This system includes features such as :

- Bank and user Registration
- Account management
- Secure login
- Money Transaction
- Transaction Tracking
- Data Visualization through graphs

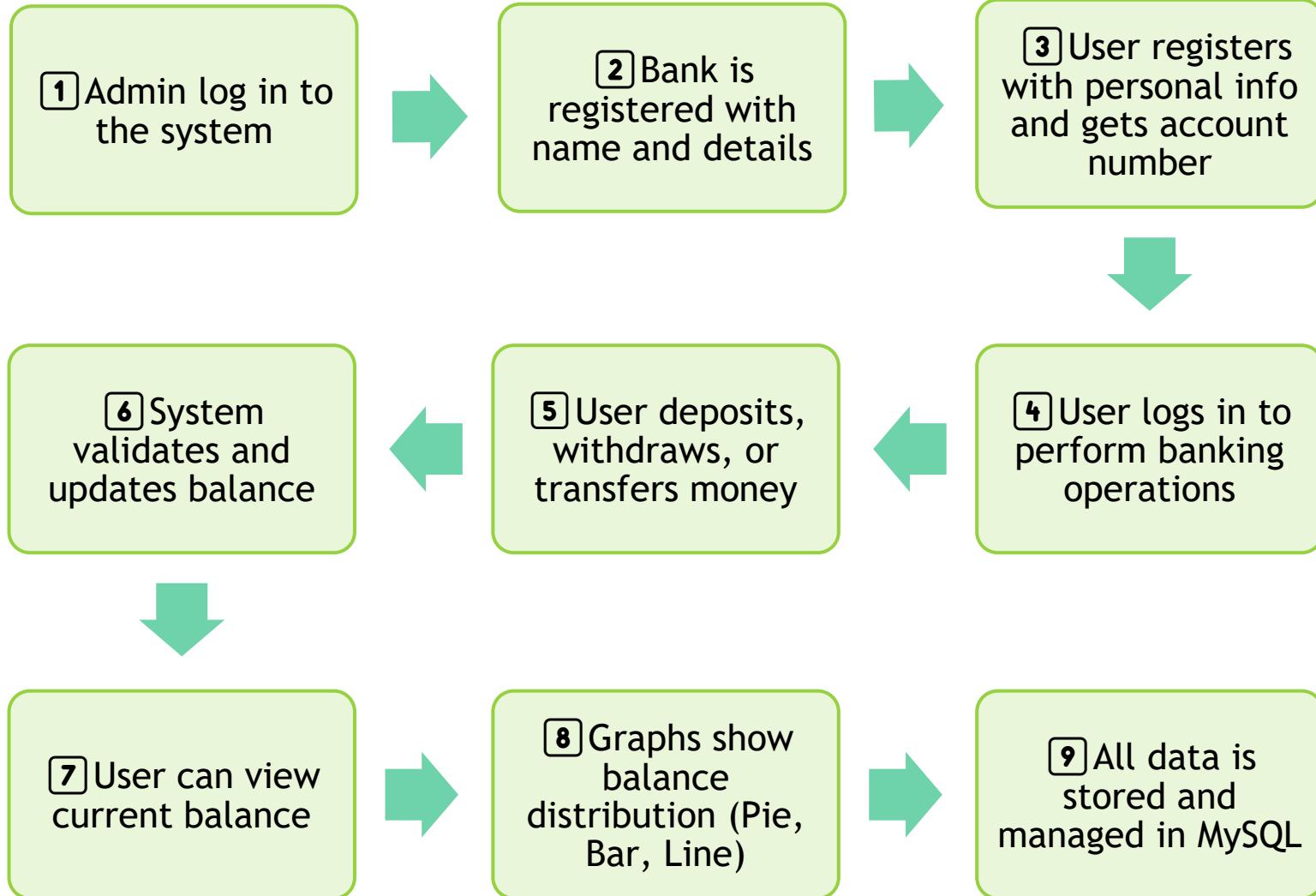
# ➤ Methodology

- ❑ **Frontend:** Python CLI.
- ❑ **Backend:** MySQL database using XAMPP.
- ❑ **User Management:** Secure login with hashed passwords.
- ❑ **Graphs:** matplotlib
- ❑ **Integration:** Python connects to MySQL using mysql.connector.





# Proposed System Architecture



# ➤ Advantages & Disadvantages

## Advantages :-

- Simple and educational
- Real banking operations
- Easy database integration
- Visual analytics added
- Customer Satisfaction
- Accuracy and Reduced Human Error
- Login authentication

## Disadvantages :-

- No GUI/Web Interface
- Limited Security
- No notifications
- Cybersecurity Risks
- Technical Issues



# Application

- 🏦 Basic banking simulation
- 💡 Academic projects
- 🔗 Demo for teaching DB connectivity
- 🔒 Extendable into full systems
- 📈 Matplotlib gives real-time charting experience
- 🛠 Backend logic testing
- 📊 Data analysis practice

# RESULT AND OUTPUT

✓ Successfully registered in a bank

```
C:\Users\HP\PycharmProjects\pythonProject\.venv\Scripts\python.exe C:\Users\HP\PycharmProjects\pythonP  
--- Bank Application ---  
1. Register Bank  
2. Create Account  
3. Login  
4. Deposit  
5. Withdraw  
6. Transfer Money  
7. View Balance  
8. Show Graphs  
9. Exit  
Choose Option: 1  
Bank Name: HDFC  
Branch Address: Dugaon  
IFSC Code: 1212  
Set Bank Password: HDFC@123  
Mobile No: 1875709509  
Bank Registered Successfully!
```

✓ Creating account for user

```
--- Bank Application ---  
1. Register Bank  
2. Create Account  
3. Login  
4. Deposit  
5. Withdraw  
6. Transfer Money  
7. View Balance  
8. Show Graphs  
9. Exit  
Choose Option: 2  
  
--- Available Banks ---  
8. HDFC (IFSC: 1212)  
9. SBI (IFSC: 1313)  
10. ICICI (IFSC: 1414)  
11. NDCC (IFSC: 1515)  
Enter Bank ID from above list: 8  
Full name: Siddhi dake  
Email: siddhi@gmail.com  
Mobile No: 54709495709  
Aadhar No: 6547568686  
PAN No: 547568678  
Address: nsk  
Set Password: siddhi@123  
Enter Balance: 10000  
Your account number is: 48304635  
Account Created Successfully!
```

## ✓ Successfully login user account/ Resets password

```
C:\Users\HP\PycharmProjects\pythonProject\.venv\Scripts\python.exe C:\Users\HP\PycharmProjects\pythonPr  
  
--- Bank Application ---  
1. Register Bank  
2. Create Account  
3. Login  
4. Deposit  
5. Withdraw  
6. Transfer Money  
7. View Balance  
8. Show Graphs  
9. Exit  
Choose Option: 3  
  
--- Login Menu ---  
1. Login  
2. Forgot Password  
Choose option (1/2): 1  
Enter Account No: 48304635  
Enter Password: siddhi@123  
Login Successful! Welcome, Siddhi dake from HDFC Bank  
  
--- Bank Application ---  
1. Register Bank  
2. Create Account  
3. Login  
4. Deposit  
5. Withdraw  
6. Transfer Money  
7. View Balance  
8. Show Graphs  
9. Exit  
Choose Option: 3  
  
--- Login Menu ---  
1. Login  
2. Forgot Password  
Choose option (1/2): 2  
Enter Your Account No: 29490062  
Enter Your Registered Mobile No: 6938463876  
Enter New Password: samuuu  
Confirm New Password: samuuu  
Password reset successfully. You can now login.
```

## ✓ Depositing & withdrawing money

```
Choose Option: 4  
Enter Amount to Deposit: 2000  
Amount Deposited Successfully.  
  
--- Bank Application ---  
1. Register Bank  
2. Create Account  
3. Login  
4. Deposit  
5. Withdraw  
6. Transfer Money  
7. View Balance  
8. Show Graphs  
9. Exit  
Choose Option: 5  
Enter Amount to Withdraw: 10000  
Amount Withdrawn Successfully.
```

✓ Transferring money to another account

```
Enter Password: siddhi@123
Login Successful! Welcome, Siddhi dake from HDFC Bank

--- Bank Application ---
1. Register Bank
2. Create Account
3. Login
4. Deposit
5. Withdraw
6. Transfer Money
7. View Balance
8. Show Graphs
9. Exit

Choose Option: 6
Receiver Account No: 48304635
Enter Amount to Transfer: 2000
Transfer Successful.
```

✓ Successfully viewing a balance

```
Transfer Successful.

--- Bank Application ---
1. Register Bank
2. Create Account
3. Login
4. Deposit
5. Withdraw
6. Transfer Money
7. View Balance
8. Show Graphs
9. Exit

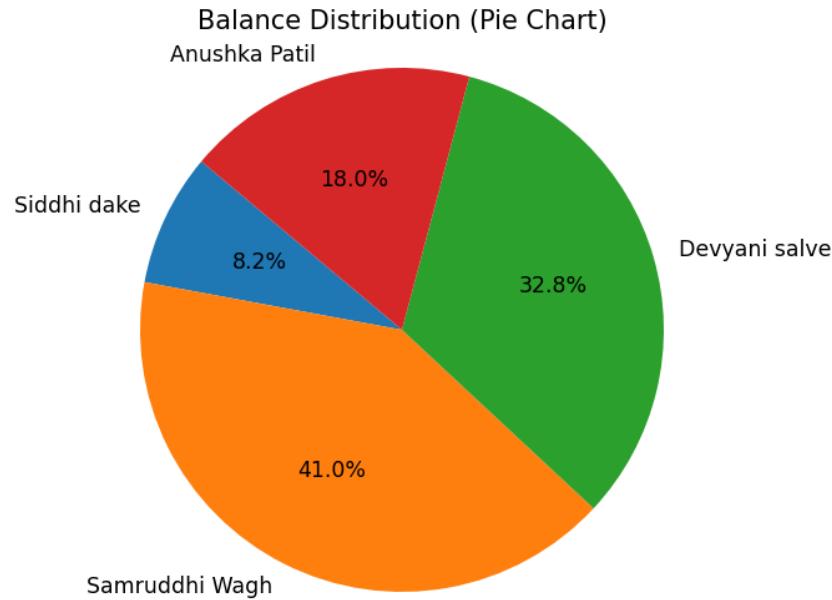
Choose Option: 7
Current Balance: ₹10000.00
```

✓ Showing graph for balance

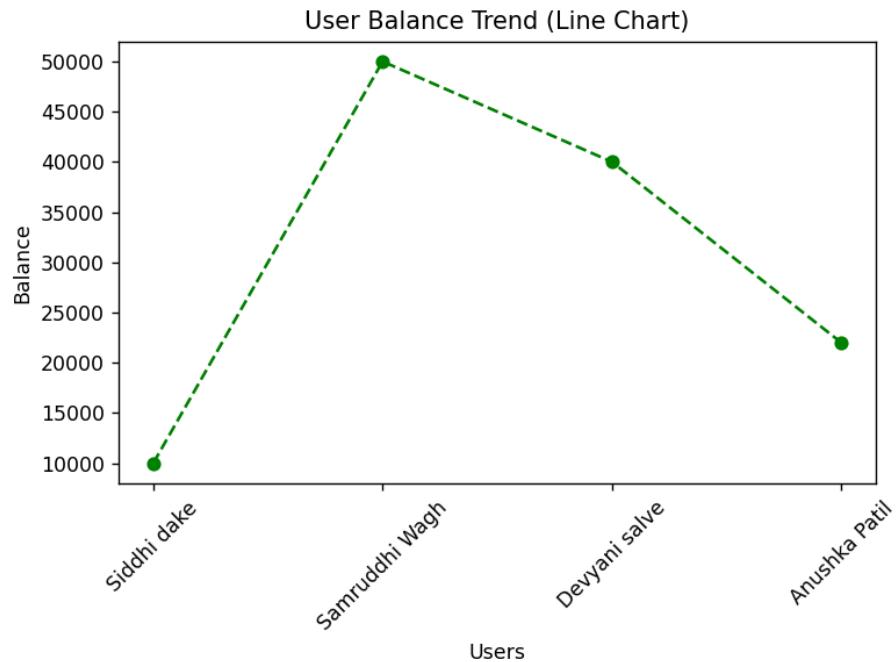
```
2. Create Account
3. Login
4. Deposit
5. Withdraw
6. Transfer Money
7. View Balance
8. Show Graphs
9. Exit
Choose Option: 8

--- Graph Options ---
1. Pie Chart
2. Bar Chart
3. Line Chart
4. Back to Main Menu
Choose a graph to view (1/2/3/4): 4
Returning to Main Menu...
```

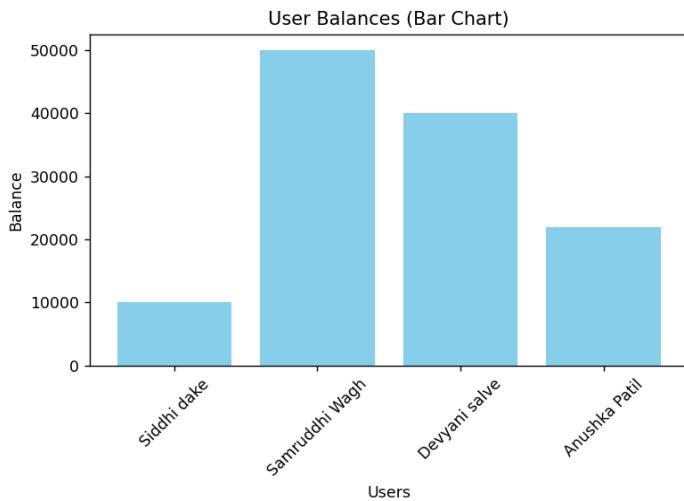
## Pie chart graph



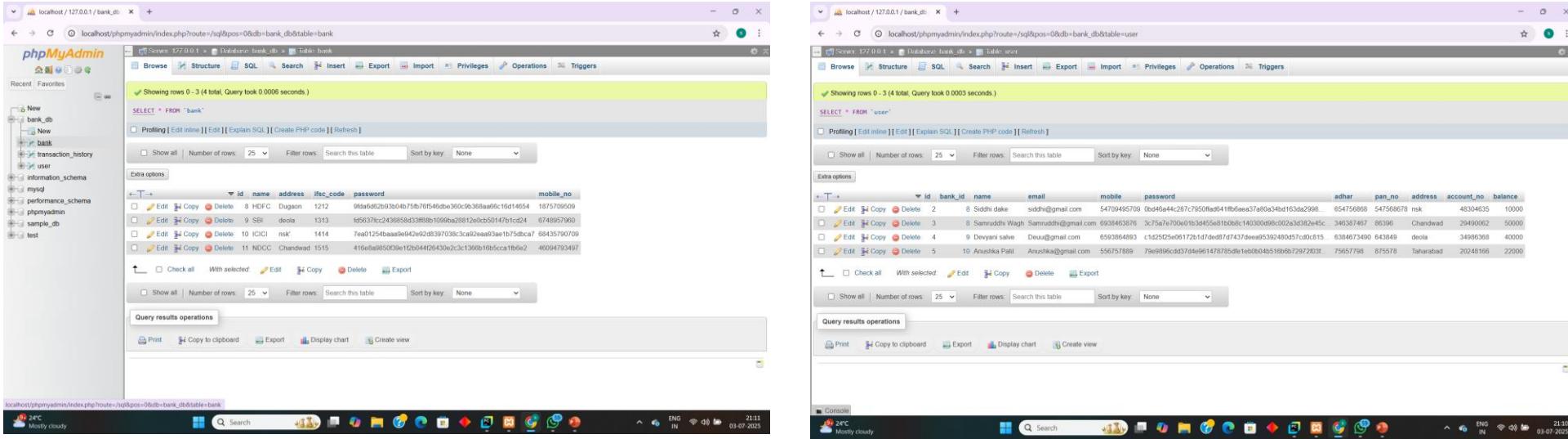
## Line chart graph



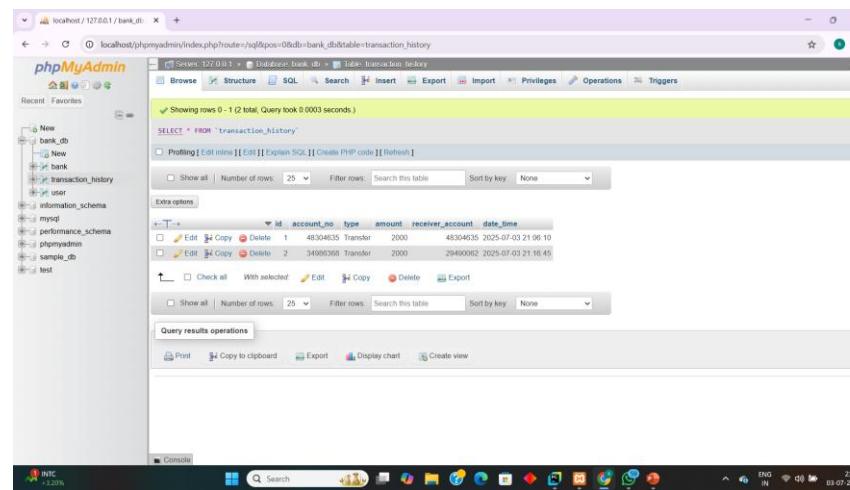
## Bar graph



✓ Result is successfully stored in MySQL



## BANK TABLE



## USER TABLE

## TRANSACTION TABLE

## ➤ Conclusion

- Ensures secure and efficient data management
- Easy to understand for students
- Practical integration of Python + MySQL + matplotlib
- Provides base for further improvements
- Reduces manual errors and save time
- A step toward digital banking automation

# ➤ References

❑ XAMPP Official Site

<https://www.apachefriends.org/>

❑ PyCharm IDE Documentation

<https://www.jetbrains.com/pycharm/documentation/>

❑ phpMyAdmin Official Site

<https://www.phpmyadmin.net/>

❑ W3Schools SQL

<https://www.w3schools.com/>

❑ MySQL Official Documentation

<https://dev.mysql.com/doc/>

**THANK YOU !**

