

The background of the slide features a close-up, high-resolution image of a wood grain, showing wavy, concentric patterns in shades of brown and tan. A dark blue, semi-transparent rectangular overlay covers the right portion of the image, providing a contrasting background for the text.

# ATM MACHINE

Promod Chandra Das

231002005

Dept: CSE

Sub: OOP LAB

Teacher

Name: **Md. Noyan Ali**

# point

Exception Handling

Account Management

Transaction History

User Interaction and Security

Summary

---





# Exception Handling

---

- ☐ Concept?
- ☐ Explanation?
- ☐ Benefit?

```
public void withdraw(double amount) throws InsufficientBalanceException {
    if (balance >= amount) {
        balance -= amount;
        transactionHistory.add("Withdrawal: -" + amount + ", Balance: ")
    } else {
        throw new InsufficientBalanceException("Insufficient Balance");
    }
}
```

```
private static int createAccount(int pin, double initialBalance) {  
    int accountId = accounts.size() + 1; // Assign account ID sequential  
    BankAccount account = new BankAccount(accountId, pin, initialBalance  
    accounts.put(accountId, account);  
    return accountId;  
}
```

# Account Management

- ☐ Concept?
- ☐ Explanation?
- ☐ Benefit?

```
java Copy code  
  
public void deposit(double amount) {  
    balance += amount;  
    transactionHistory.add("Deposit: +" + amount + ", Balance: " + balance  
}
```

- ☐ Concept?
- ☐ Explanation?
- ☐ Benefit?

# Transaction History



# User Interaction and Security

- ☐ CONCEPT?
- ☐ EXPLANATION?
- ☐ BENEFIT?

```
java Copy code  
  
private static boolean validatePin(int accountId, int enteredPin) throws  
    BankAccount account = accounts.get(accountId);  
    if (account != null && account.getPin() == enteredPin) {  
        return true;  
    } else {  
        throw new InvalidPinException("Invalid PIN. Please try again.");  
    }  
}
```



# Summary

This Java program simulates an ATM machine with functionalities including account creation, deposit, withdrawal, balance checking, and viewing transaction history. It uses a HashMap to manage accounts and implements custom exceptions (**InsufficientBalanceException**, **InvalidPinException**, **AccountNotFoundException**) for error handling, ensuring secure and user-friendly operations.



# Thank you

Promod Chandra Das  
[promodd23@gmail.com](mailto:promodd23@gmail.com)