

# Rajalakshmi Engineering College

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## 2024\_28\_III\_OOPS Using Java Lab

### 2028\_REC\_OOPS using Java\_Week 5\_Q2

Attempt : 1

Total Mark : 10

Marks Obtained : 10

#### **Section 1 : Coding**

##### **1. Problem Statement**

You are working as a developer for CityBank, which wants to build a basic account management system.

Each customer at the bank has:

An Account Number (integer)  
A Customer Name (string)  
An Initial Balance (double)

The bank allows two types of transactions:

Deposit – increases the balance.  
Withdrawal – decreases the balance only if enough funds are available.

If the withdrawal amount is greater than the balance, the withdrawal should not happen, and the balance should remain the same.

You are required to implement this system using:

A class with attributes for account details. A constructor to initialize account details. Setter methods to update details if needed. Getter methods to retrieve details. Objects of the class to represent customers.

Finally, display each customer's account details after all transactions.

### ***Input Format***

The first line of input contains an integer N, representing the number of customers.

For each customer:

- The next line contains the account number (integer).
- The following line contains the customer name (string).
- The next line contains the initial balance (double).
- The next line contains the deposit amount (double).
- The next line contains the withdrawal amount (double).

### ***Output Format***

For each customer, print the details in the following format:

1. Account Number: <account\_number>
2. Customer Name: <customer\_name>
3. Final Balance: <final\_balance> (rounded to one decimal place)

Refer to the sample output for formatting specifications.

### ***Sample Test Case***

Input: 1

1234

Rahul Sharma

5000

2000

3000

Output: Account Number: 1234

Customer Name: Rahul Sharma

Final Balance: 4000.0

### Answer

```
import java.util.Scanner;

// BankAccount class with attributes, constructor, getters, setters, and methods
class BankAccount {
    private int accountNumber;
    private String customerName;
    private double balance;

    // Constructor to initialize account details
    public BankAccount(int accountNumber, String customerName, double balance) {
        this.accountNumber = accountNumber;
        this.customerName = customerName;
        this.balance = balance;
    }

    // Getter methods
    public int getAccountNumber() { return accountNumber; }
    public String getCustomerName() { return customerName; }
    public double getBalance() { return balance; }

    // Setter methods
    public void setAccountNumber(int accountNumber) { this.accountNumber = accountNumber; }
    public void setCustomerName(String customerName) { this.customerName = customerName; }
    public void setBalance(double balance) { this.balance = balance; }

    // Deposit method
    public void deposit(double amount) {
        if (amount >= 0) balance += amount;
    }

    // Withdrawal method
    public void withdraw(double amount) {
        if (amount >= 0 && amount <= balance) balance -= amount;
    }

    // Display account details
}
```

```
public void display() {
    System.out.println("Account Number: " + accountNumber);
    System.out.println("Customer Name: " + customerName);
    System.out.printf("Final Balance: %.1f%n", balance);
}
}

// Main class for input/output
public class Main {
    public static void main(String[] args) {
        Scanner sc = new Scanner(System.in);

        int N = Integer.parseInt(sc.nextLine().trim()); // number of customers
        BankAccount[] customers = new BankAccount[N];

        for (int i = 0; i < N; i++) {
            int accNo = Integer.parseInt(sc.nextLine().trim());
            String name = sc.nextLine().trim();
            double initialBalance = Double.parseDouble(sc.nextLine().trim());
            double depositAmount = Double.parseDouble(sc.nextLine().trim());
            double withdrawalAmount = Double.parseDouble(sc.nextLine().trim());

            // Create BankAccount object
            BankAccount customer = new BankAccount(accNo, name, initialBalance);

            // Perform transactions
            customer.deposit(depositAmount);
            customer.withdraw(withdrawalAmount);

            customers[i] = customer;
        }

        // Display all customer details
        for (BankAccount customer : customers) {
            customer.display();
        }

        sc.close();
    }
}
```

**Status :** Correct

**Marks :** 10/10