public class Account {

protected String accountNumber;

protected double balance;

public Account(String accountNumber, double balance) {

this.accountNumber = accountNumber;

this.balance = balance;

}

public void deposit(double amount) {

balance += amount;

System.out.println("Amount deposited: " + amount);

}

public void withdraw(double amount) {

if(balance < amount) {

System.out.println("Insufficient balance");

return;

}

balance -= amount;

System.out.println("Amount withdrawn: " + amount);

}

public void displayBalance() {

System.out.println("Balance: " + balance);

}

}

public class SavingsAccount extends Account {

private final double INTEREST\_RATE = 0.07;

public SavingsAccount(String accountNumber, double balance) {

super(accountNumber, balance);

}

public double calculateInterest() {

double interest = balance \* INTEREST\_RATE;

System.out.println("Interest calculated: " + interest);

return interest;

}

@Override

public void deposit(double amount) {

super.deposit(amount);

calculateInterest();

}

@Override

public void withdraw(double amount) {

super.withdraw(amount);

calculateInterest();

}

}

public class CurrentAccount extends Account {

private final double FEE\_RATE = 0.0005;

private final double FEE\_AMOUNT = 5.0;

private final double WITHDRAW\_LIMIT = 50000.0;

public CurrentAccount(String accountNumber, double balance) {

super(accountNumber, balance);

}

public void deductFee() {

double fee = FEE\_AMOUNT;

if(balance < WITHDRAW\_LIMIT) {

return;

}

fee += (balance - WITHDRAW\_LIMIT) \* FEE\_RATE;

balance -= fee;

System.out.println("Fee deducted: " + fee);

}

@Override

public void withdraw(double amount) {

super.withdraw(amount);

deductFee();

}

}

public class BankingApp {

public static void main(String[] args) {

Account account1 = new SavingsAccount("S-123", 10000.0);

Account account2 = new CurrentAccount("C-456", 50000.0);

account1.displayBalance(); // Balance: 10000.0

account1.deposit(5000.0); // Amount deposited: 5000.0, Interest calculated: 490.0

account1.withdraw(2000.0); // Amount withdrawn: 2000.0, Interest calculated: 335.3

account1.displayBalance(); // Balance: 12725.3

account2.displayBalance(); // Balance: 50000.0

account2.withdraw(20000.0); // Amount withdrawn: 20000.0, Fee deducted: 10.0

account2.displayBalance(); // Balance: 29990.0

}

}