

## Lab-5

### Bank

```
import java.util.Scanner;

class Account {
    private String customer_name;
    private int acc_no;
    protected double balance;

    public Account(String customer_name, int acc_no, double balance) {
        this.customer_name = customer_name;
        this.acc_no = acc_no;
        this.balance = balance;
    }

    public double getBalance() {
        return balance;
    }

    public void deposit(double amount) {
        if (amount > 0) {
            balance += amount;
            System.out.println("Deposited: " + amount);
        } else {
            System.out.println("Deposit amount must be positive.");
        }
    }

    public void withdraw(double amount)
    {
        if(amount<=getBalance()){
            balance-=amount;
            System.out.println("withdrew:"+amount + " balance is:"+ balance);
        }
    }
}
```

```

        else
            System.out.println("Insufficient funds!!");
    }
    public void displayBalance(){
        System.out.println("Current Balance: " + balance);
    }
}

class SavingsAccount extends Account {
    private double interestRate;

    public SavingsAccount(String customerName, int accountNumber, double initialBalance, double
interestRate) {
        super(customerName, accountNumber, initialBalance);
        this.interestRate = interestRate;
    }

    public void computeAndDepositInterest() {
        double interest = getBalance() * interestRate / 100;
        deposit(interest);
    }
}

class CurrentAccount extends Account {
    private double minimumBalance;
    private double serviceCharge;

    public CurrentAccount(String customerName, int accountNumber, double initialBalance, double
minimumBalance, double serviceCharge) {
        super(customerName, accountNumber, initialBalance);
        this.minimumBalance = minimumBalance;
        this.serviceCharge = serviceCharge;
    }

    public void checkMinimumBalance() {
        if (getBalance() < minimumBalance) {

```

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        System.out.println("Balance is below minimum");
        balance-=serviceCharge;
        System.out.println("Deducted service charge:" +serviceCharge);
        System.out.println("Balance after deduction is:"+balance);
    }
}
}

public class Bank {
    public static void main(String[] args) {
        Scanner sc = new Scanner(System.in);
        System.out.println("enter customer name:");
        String name=sc.nextLine();
        System.out.println("enter accno:");
        int acc_no=sc.nextInt();
        System.out.println("enter initial balance:");
        double balance=sc.nextDouble();
        System.out.println("enter minimum balance:");
        double minimum_balance=sc.nextDouble();
        System.out.println("enter interest rate:");
        double interest_rate=sc.nextDouble();
        System.out.println("enter service charge:");
        double service_charge=sc.nextDouble();
        System.out.println("Enter choice:\n 1.Current acc\n 2.Savings acc");
        int ch=sc.nextInt();
        System.out.println("Customer name is:"+ name+"\nAccount number:"+acc_no);
        switch(ch){
            case(1):
                System.out.println("account is current type");
                CurrentAccount ca = new
CurrentAccount(name,acc_no,balance,minimum_balance,service_charge);
                do{ System.out.println("enter choice:\n 1.deposit\n 2.withdraw\n 3.display balance");
                    int c=sc.nextInt();
                    ca.checkMinimumBalance();
                    if(c==1){

```

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        System.out.println("enter amount to be deposited:");
        double amt=sc.nextDouble();
        ca.deposit(amt);}
else if(c==2){
    System.out.println("enter amount to withdraw:");
    double amt=sc.nextDouble();
    ca.withdraw(amt);}
else if(c==3){
    ca.displayBalance();}
else
    System.exit(0);
}while(true);

case(2):
    System.out.println("account is savings type");
    SavingsAccount sa=new SavingsAccount(name,acc_no,balance,interest_rate);
    do{ System.out.println("enter choice:\n 1.deposit\n 2.withdraw\n 3.display balance");
    int c1=sc.nextInt();
    if(c1==1){
        System.out.println("enter amount to be deposited:");
        double amt=sc.nextDouble();
        sa.deposit(amt);}
    else if(c1==2){
        System.out.println("enter amount to withdraw:");
        double amt=sc.nextDouble();
        sa.withdraw(amt);}
    else if(c1==3){
        sa.computeAndDepositInterest();
        sa.displayBalance();}
    else{
        System.exit(0);
        }
    }while(true);
}

```

```
}  
}
```

## Output:

```
D:\16>java Bank  
enter customer name:  
Afreen  
enter accno:  
242424  
enter initial balance:  
10000  
enter minimum balance:  
2000  
enter interest rate:  
12  
enter service charge:  
10  
Enter choice:  
  1.Current acc  
  2.Savings acc  
1  
Customer name is:Afreen  
Account number:242424  
account is current type  
enter choice:  
  1.deposit  
  2.withdraw  
  3.display balance  
1  
enter amount to be deposited:  
1000  
Deposited: 1000.0  
enter choice:  
  1.deposit  
  2.withdraw  
  3.display balance  
3  
Current Balance: 11000.0  
enter choice:  
  1.deposit  
  2.withdraw  
  3.display balance  
2  
enter amount to withdraw:  
5000  
withdrew:5000.0 balance is:6000.0  
enter choice:  
  1.deposit  
  2.withdraw  
  3.display balance  
3  
Current Balance: 6000.0
```

```
enter choice:
 1.deposit
 2.withdraw
 3.display balance
3
Current Balance: 6000.0
enter choice:
 1.deposit
 2.withdraw
 3.display balance
2
enter amount to withdraw:
5000
withdrew:5000.0 balance is:1000.0
enter choice:
 1.deposit
 2.withdraw
 3.display balance
3
Balance is below minimum
Deducted service charge:10.0
Balance after deduction is:990.0
Current Balance: 990.0
enter choice:
 1.deposit
 2.withdraw
 3.display balance
5
Balance is below minimum
Deducted service charge:10.0
Balance after deduction is:980.0
```

```
D:\16>java Bank
enter customer name:
Afreen
enter accno:
242424
enter initial balance:
10000
enter minimum balance:
5000
enter interest rate:
12
enter service charge:
10
Enter choice:
1.Current acc
2.Savings acc
2
Customer name is:Afreen
Account number:242424
account is savings type
enter choice:
1.deposit
2.withdraw
3.display balance
1
enter amount to be deposited:
1000
Deposited: 1000.0
enter choice:
1.deposit
2.withdraw
3.display balance
3
Deposited: 1320.0
Current Balance: 12320.0
enter choice:
1.deposit
2.withdraw
3.display balance
2
enter amount to withdraw:
1000
withdrew:1000.0 balance is:11320.0
enter choice:
1.deposit
2.withdraw
3.display balance
3
Deposited: 1358.4
Current Balance: 12678.4
enter choice:
1.deposit
2.withdraw
3.display balance
5
D:\16>
```