Lab-5

```
import java.lang.Math;
import java.util.Scanner;

class Bank {
    double min_balance, service_charge;
    boolean provides_chq_book, provides_withdrawal,
        provides_interest;
}

abstract class Account extends Bank {
    String name, account_type;
    Long account_num;
    double account_balance;

Account (String name, Long num, String type) {
    this.name = name;
    this.account_num = num;
    this.account_type = type;
    this.account_balance = 0;
}

public double depositCash(double cash) {
    this.account_balance += cash;
    return this.account_balance;
}

public double withdrawCash(double cash) {
    if (cash > this.account_balance) {
        System.out.println("Not enough money
            in account");
```

```
        } else {
            this.account_balance -= cash;
        }
        return this.account_balance;
    }

    public void displayBalance() {
        System.out.println("Balance: " + this.
        account_balance);
    }

    abstract boolean checkMinBalance();
    abstract double calcInterest(boolean print_
        interest);
    abstract double depositInterest();
}

class SavingsAccount extends Account {
    double min_balance = 0;
    double service_charge = 0;
    boolean provides_interest = true;
    boolean provides_withdrawal = true;
    boolean provides_chq_book = false;

    SavingsAccount(String name, Long num, String
                   type) {
        super(your_name, your_account_num,
              your_account_type);
    }

    boolean checkMinBalance() {
        System.out.println("No min balance");
```

```
        return true;
    }

    double calcInterest(boolean print_interest){
        double rate = 5;
        double time = 10;
        double interest = (this.account_balance *
                Math.pow((1+(rate/100)),
                (time)) - this.
                account_balance;
        if(print_interest == true){
            System.out.println("Interest is " +
                interest );
        }
        return interest;
    }

    double depositInterest(){
        double calc = calcInterest(false);
        this.account_balance += calc;
        return this.account_balance;
    }
}

class CurrentAccount extends Account{
    double service_charge = 50;
    double min_balance = 1000;
    boolean provides_interest = false;
    boolean provides_withdrawal = true;
    boolean provides_chq_book = true;
    CurrentAccount(String name, Long num, String type)
    {
```

```
        {
            super(name, num, type);
        }

    boolean checkMinBalance() {
        if (this.account_balance < min_balance) {
            System.out.println("Balance is less
than minimum. Service charges apply");
        this.account_balance -= service_charge;
        return false;

    } else {
        return true;

    }
}
```

```
double calcInterest (boolean print_interest) {
    if (print_interest) {
        System.out.println("No interest");
    }
    return 0.0;
}

double defaultInterest () {
    System.out.println("No intrest");
    return this.account_balance;

    }
}

class BankMain {
    public static void main(String[] args) {
        String temp_name, temp_type;
```

```
Long temp_num;
int operation;
Scanner gd = new Scanner(System.in);
System.out.println("ACCOUNT \n");
System.out.println("Name: ");
temp_name = gd.nextLine();
System.out.println("Type: ");
temp.type = gd.next();
System.out.println("Acc no");
temp_num = gd.nextLong();
Account new_account;
if(temp.type.equals("SAVINGS")){
    new_account = new SavingsAccount(temp
      .name, temp_num, temp_type);
}
else{
new_account = new CurrentAccount(temp_name,
  temp_num, temp_type);
}
System.out.println("Enter Operation
(0:Deposit, 1:Wdraw, 2:Display, 3:Balance
  4:Calc Interest, 5:Interest, 6:Terminate):");
operation = gd.nextInt();
while(operation != 6){
  switch(operation){
      case 0:
          System.out.println("Enter the
            amount to be deposited: ");
          new_acc.deposit(cash(gd.next
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```
        Double() );
        break;
    case 1:
      System.out.println("Enter the
        amount to be withdrawn: ");
      new_account.withdrawCash(
        gd.nextDouble());
        break;
    case 2:
      new_account.displayBalance();
      break;
    case 3:
      new_account.checkMinBalance();
      break;
    case 4:
        new_account.calcInterest(true);
        break;
    case 5:
        new_account.depositInterest();
        break;
    default:
      System.out.println("Invalid
        operation");
      break;
  }
  System.out.println("Enter Operation
  (0:Deposit, 1:Wdraw, 2:Display, 3:Balance
    4:Calc Interest, 5:Interest, 6:Terminate):");
  operation = gd.nextInt();
 }
}
```

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```
pranavsastry@Pranavs-iMac:~/Documents/OOJ-Lab/Lab 5$ compj BankMain
pranavsastry@Pranavs-iMac:~/Documents/OOJ-Lab/Lab 5$ runj BankMain

***** ACCOUNT *****

Name:
Pranav
Account Type:
SAVINGS
Account Number:
23425
Enter the type of transaction(0:Deposit,1:Withdraw,2:Display,3:Check Balance,4:Calc Interest,5:Deposit Int
erest,6:Terminate):
0
Enter the amount to be deposited:
100
Enter the type of transaction(0:Deposit,1:Withdraw,2:Display,3:Check Balance,4:Calc Interest,5:Deposit Int
erest,6:Terminate):
1
Enter the amount to be withdrawn:
200
Cash to be withdrawn is greater than the balance in your account!
Enter the type of transaction(0:Deposit,1:Withdraw,2:Display,3:Check Balance,4:Calc Interest,5:Deposit Int
erest,6:Terminate):
2
ACCOUNT BALANCE: 100.0
Enter the type of transaction(0:Deposit,1:Withdraw,2:Display,3:Check Balance,4:Calc Interest,5:Deposit Int
erest,6:Terminate):
4
Interest on your balance is: 62.889462677744206
Enter the type of transaction(0:Deposit,1:Withdraw,2:Display,3:Check Balance,4:Calc Interest,5:Deposit Int
erest,6:Terminate):
```