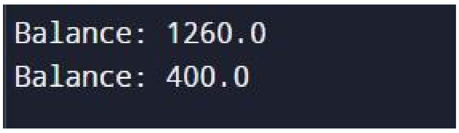
Program:

```
import java.util.ArrayList;
import java.util.List;
interface Account {
void deposit(double amount);
void withdraw(double amount);
void calculateInterest();
double viewBalance();
}
abstract class BankAccount implements Account {
protected double balance;
public BankAccount(double initialBalance) {
this.balance = initialBalance;
}
@Override
public void deposit(double amount) {
balance += amount;
}
@Override
public void withdraw(double amount) {
if (amount <= balance) {
balance -= amount;
} else {
System.out.println("Insufficient funds");
} }
@Override
public double viewBalance() {
return balance;
}
@Override
public abstract void calculateInterest();
}
class SavingsAccount extends BankAccount {
private static final double INTEREST_RATE = 0.05; // 5% annual
interest rate
public SavingsAccount(double initialBalance) {
super(initialBalance);
```

```
}
@Override
public void calculateInterest() {
balance += balance * INTEREST_RATE;
}
}
class CurrentAccount extends BankAccount {
private static final double OVERDRAFT_LIMIT = 500.0;
public CurrentAccount(double initialBalance) {
super(initialBalance); }
@Override
public void withdraw(double amount) {
if (amount <= balance + OVERDRAFT_LIMIT) {
balance -= amount;
} else {
System.out.println("Overdraft limit exceeded");
}
}
@Override
public void calculateInterest() {
// Current accounts do not earn interest
}
}
class Bank {
private List<Account> accounts = new ArrayList<>();
public void addAccount(Account account) {
accounts.add(account);
}
public void displayBalances() {
for (Account account : accounts) {
System.out.println("Balance: " + account.viewBalance());
} }
}
public class BankingSystem {
public static void main(String[] args) {
Bank bank = new Bank();
```

```
SavingsAccount savingsAccount = new SavingsAccount(1000);
CurrentAccount currentAccount = new CurrentAccount(500);
bank.addAccount(savingsAccount);
bank.addAccount(currentAccount);
savingsAccount.deposit(200);
currentAccount.withdraw(100);
savingsAccount.calculateInterest();
currentAccount.calculateInterest();
bank.displayBalances();
}
}
```

Output:



```
Balance: 1260.0
Balance: 400.0
```