

## Java OOP Project

Objectives: Covers Object composition, inheritance, polymorphism, Abstract class, Interface, enum and user-defined exception.

### Instructions

Write an **OBJECT-ORIENTED** financial program adhering to the simple requirements listed below. This program should require no input to run and should **NOT** have a user interface. To demonstrate the functionality of your application, please write test classes that invoke a deposit, a withdrawal, and a transfer.

The completed code should support the following:

- A credit union has a name.
- A credit union also has several accounts.
- An account has an owner and a balance.
- Account types include: Money Market, Certificate of Deposit (CD).
- There are two types of Money Market accounts: Consumer, Commercial.
- Consumer accounts have a withdrawal limit of \$750.
- Transactions are made on accounts.
- Transaction types include: Deposit, Withdraw, Transfer.

Java Project: CreditUnionProject

Package: com.deloitte.trg.service

Classes: CreditUnion, Account (Abstract class), MoneyMarket, CertificateOfDeposit

Interface: Transaction

User-defined Exception: CreditUnionException

Note: Integrate Log4J into the project. Log important messages and exceptions in the log file

Package: com.deloitte.trg.ui

Class: CreditUnionTester

```
public class CreditUnionTester {

    public static void main(String[] args) {
        CreditUnion creditUnion = new CreditUnion();

        creditUnion.setCreditUnionName("BrightStar");
        creditUnion.setAddress("some address");

        MoneyMarket mm1 = new MoneyMarket(101, "Smith", 250000, "Money Market", AccountTypeEnum.Consumer);
        MoneyMarket mm2 = new MoneyMarket(102, "Jones", 350000, "Money Market", AccountTypeEnum.Commercial);
        MoneyMarket mm3 = new MoneyMarket(103, "Avinash Chandra", 650000, "Money
                                          Market", AccountTypeEnum.Commercial);

        CertificateOfDeposit cd1 = new CertificateOfDeposit(501, "Timberlake", 5000, "Certificate of Deposit");
        CertificateOfDeposit cd2 = new CertificateOfDeposit(502, "Laxmi", 10000, "Certificate of Deposit");

        Account [] bankAccounts=new Account[5];

        bankAccounts[0]=mm1; bankAccounts[1]=mm2; bankAccounts[2]=mm3;
        bankAccounts[3] =cd1;bankAccounts[4]=cd2;

        creditUnion.setAccounts(bankAccounts);

        System.out.println(creditUnion);
    }
}
```