

## Lecture/Workshop (Week 6)

```

public class MoneyCard
{
    private String cardNumber;
    private String customerName;
    private String currency;
    private double balance;

    public MoneyCard(String cardNo, String custName,
                     String currType)
    {
        cardNumber = cardNo;
        customerName = custName;
        currency = currType;
        balance = 0;
    }

    public double getBalance()
    {
        return balance;
    }

    public void addFunds(double amount)
    {
        if (amount <= 0)
        {
            System.out.println(amount +
                               " is not a valid amount to add!");
        }
        else
        {
            balance = balance + amount;
        }
    }

    public void makePurchase(double amount)
    {
        if (amount <= 0)
        {
            System.out.println("Not a valid amount");
        }
        else if (amount > balance)
        {
            System.out.println("Not enough funds");
        }
        else
        {
            balance -= amount;
        }
    }

    public void displayMoneyCard()
    {
        System.out.println("MoneyCard details: "
                           + "\n\tcardNumber: " + cardNumber
                           + "\n\tcustomerName: " + customerName
                           + "\n\tcurrency: " + currency
                           + "\n\tbalance: " + balance);
    }

    public String toString()
    {
        String description = "MoneyCard["
            + " cardNumber: " + cardNumber
            + " customerName: " + customerName
            + " currency: " + currency
            + " balance: " + balance + "];"
        return description;
    }
}

```

```

public class MoneyCardTester
{
    public static void main(String[] args)
    {
        // Test 1 - create a money card and display it
        MoneyCard a1 = new MoneyCard("C10", "Smith", "EUR");
        System.out.println(a1.toString());

        // Test 2 . add funds and display the money card
        a1.addFunds(200);
        System.out.println(a1);

        // Test 3 . try to add an invalid amount and see
        // how the object handles it
        a1.addFunds(-100);
        System.out.println(a1);

        // Test 4 - make a purchase
        a1.makePurchase(100);
        System.out.println(a1);

        // Test 5 - make an invalid purchase request
        a1.makePurchase(0);
        System.out.println(a1);

        // Test 6 - make a purchase request that is too large
        a1.makePurchase(300);
        System.out.println(a1);

        // Test 7 - get the balance
        double balance = a1.getBalance();
        System.out.println("balance: " + balance);

        // Test 8 . display the money card details
        a1.displayMoneyCard();
    }
}

```

### **Lecture/Workshop (Week 7) – MoneyCardTester output**

```

MoneyCard[ cardNumber: C10 customerName: Smith currency: EUR balance: 0.0]

MoneyCard[ cardNumber: C10 customerName: Smith currency: EUR balance: 200.0]

-100.0 is not a valid amount to add!
MoneyCard[ cardNumber: C10 customerName: Smith currency: EUR balance: 200.0]

MoneyCard[ cardNumber: C10 customerName: Smith currency: EUR balance: 100.0]

Not a valid amount
MoneyCard[ cardNumber: C10 customerName: Smith currency: EUR balance: 100.0]

Not enough funds
MoneyCard[ cardNumber: C10 customerName: Smith currency: EUR balance: 100.0]

balance: 100.0

MoneyCard details:
    cardNumber: C10
    customerName: Smith
    currency: EUR
    balance: 100.0

```