ESOF 422 - Homework 1

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Question 1

Part 1

```
--getCharge operation in Rental class
getCharge():Real
        begin
                declare wrkCh:Real, m:Movie, pc:PriceCode,dy:Integer;
                m:=self.getMovie();
                dy:=self.getDaysRented();
                pc:=m.getPriceCode();

                wrkCh:=0;

                if pc=PriceCode::regular then
                        wrkCh:=2.0;
                        if dy > 2 then
                                wrkCh:=wrkCh + (dy -2) * 1.5;
                        end;
                end;

                if pc=PriceCode::family then
                        wrkCh:=1.5;
                        if dy > 3 then
                                wrkCh:=wrkCh + (dy -3) * 1.5;
                        end;
                end;

                if pc=PriceCode::newRelease then
                        wrkCh:=dy * 3.0;
                end;

                result:=wrkCh;
end

--getTotalCharge operation in customer class
getTotalCharge():Real
        begin
                declare totalCharge:Real, ch:Real;
                totalCharge:=0;
                for ren in self.rentals do
                        ch:=ren.getCharge();
                        totalCharge:=totalCharge + ch;
                end;
                result:=totalCharge;
        end;
```
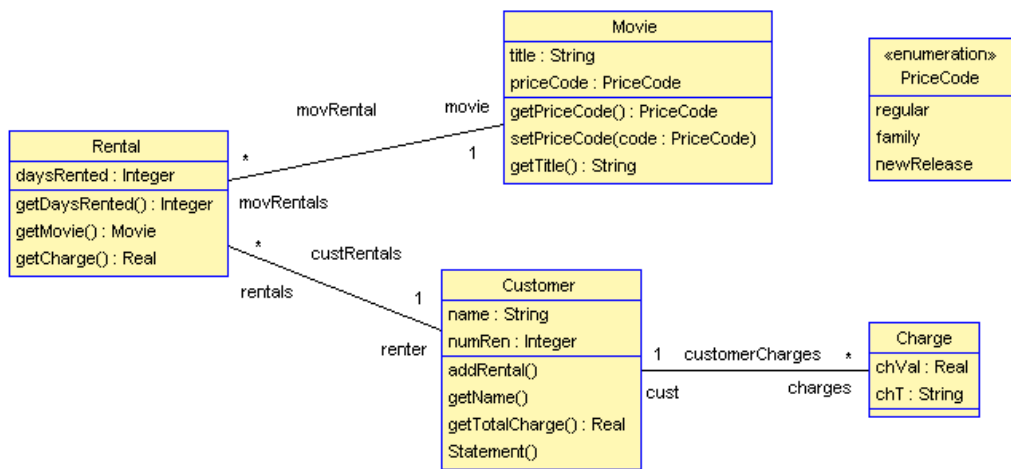
Part 2

Question 2

.x

Figure 1: Class Diagram

```
Command Prompt - use                              —    □    ×

use>
use>
use> check
checking structure...
checked structure in 2ms.
checking invariants...
checking invariant (1) `Customer::agreement': OK.
checking invariant (2) `Customer::maxRental': OK.
checking invariant (3) `Customer::rentals': OK.
checked 3 invariants in 0.010s, 0 failures.
use>
```
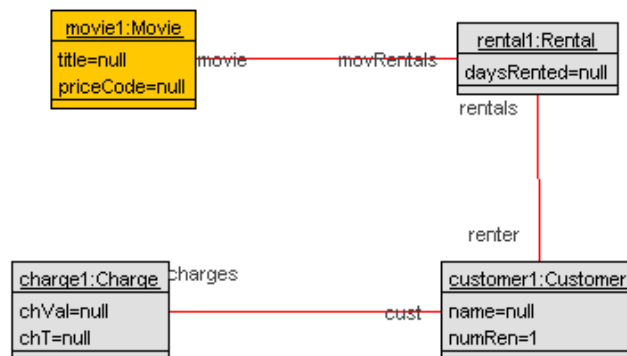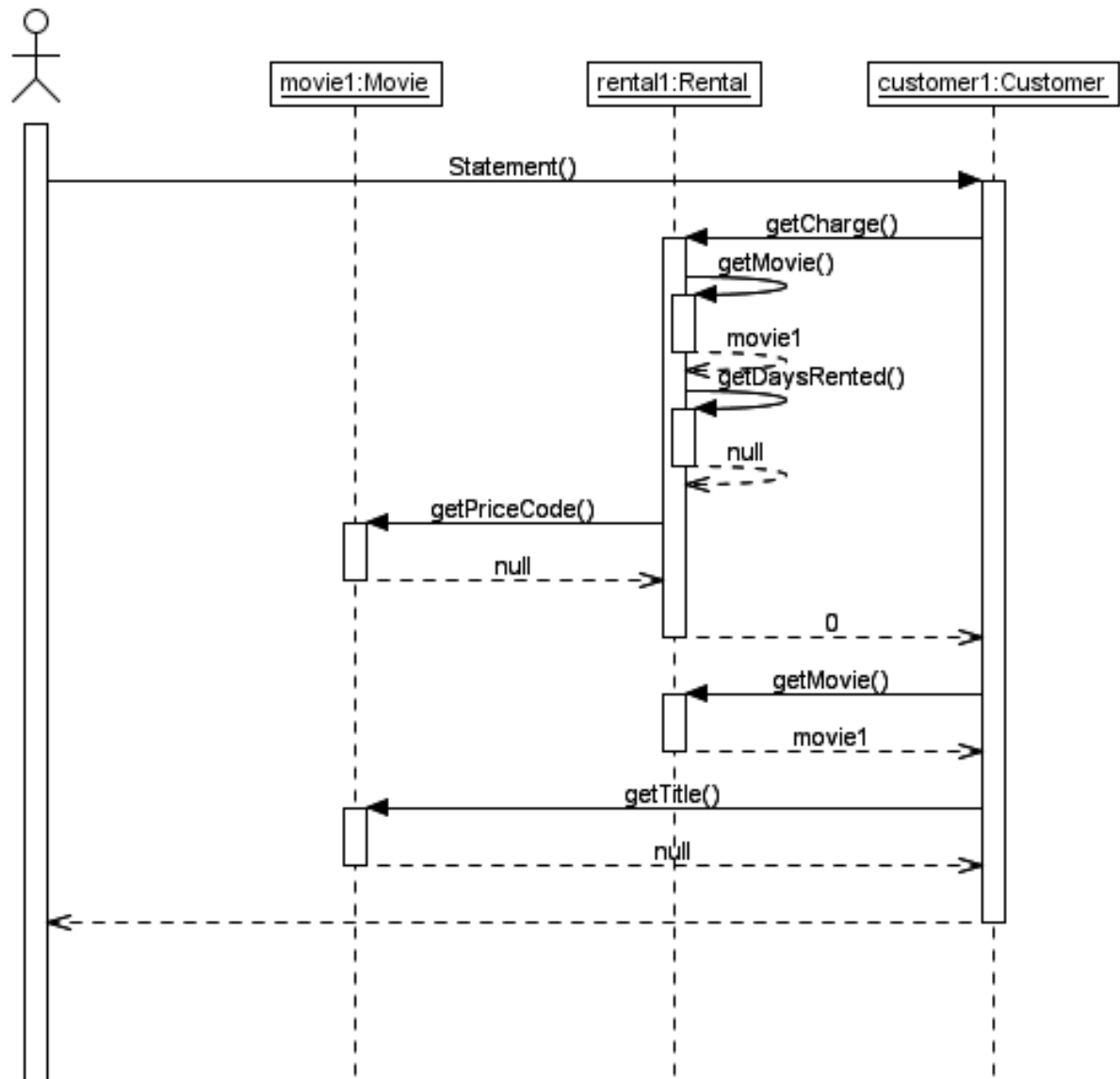

Figure 2: Object Diagram

4

Figure 3: Sequence Diagram