Universidad Nacional de la Patagonia Austral
Unidad Académica Río Gallegos

Carrera: Analista de Sistemas/Licenciatura en Sistemas

Asignatura: Programación Orientada a Objetos

Refactoring

Ejercicio Nº 2

<u>**Ejemplo:**</u>

Un programa para calcular e imprimir de alquileres de un cliente en una tienda de vídeo.

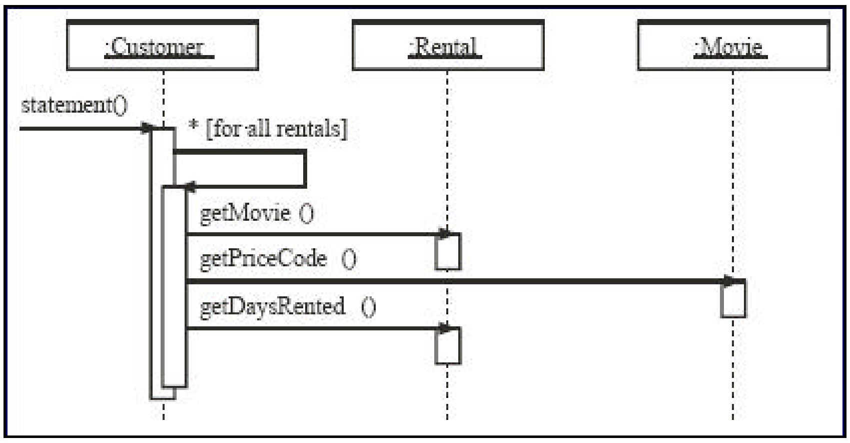
Refactoring

Algo anda mal, que es?

```
public class Movie {
      public static final int CHILDRENS = 2;
      public static final int REGULAR = 0;
      public static final int NEW_RELEASE = 1;
      private String _title;
      private int _priceCode;

      public Movie( String title, int priceCode ) {
            _title = title;
            _priceCode = priceCode;
      }

            public int getPriceCode() {
                  return _priceCode;
            }

            public void setPriceCode( int arg ) {
                  _priceCode = arg;
            }

            public String getTitle() {
                  return _title;
            }
}
```

```
class Rental {
      private Movie _movie;
      private int _daysRented;
      public Rental( Movie movie, int daysRented ) {
            _movie = movie;
            _daysRented = daysRented;
      }

      public int getDaysRented() {
            return _daysRented;
      }

      public Movie getMovie() {
            return _movie;
      }
}
```

```
class Customer {
      private String _name;
      private Vector _rentals = new Vector();

      public Customer( String name ) {
            _name = name;
      }

      public void addRental( Rental arg ) {
            _rentals.addElement( arg );
      }

      public String getName() {
            return _name;
      }
}
```



Customer::statement()

```
public String statement() {
      double totalAmount = 0;
      int frequentRenterPoints = 0;
      Enumeration rentals = _rentals.elements();
      String result = Rental Record for + getName() + \n ;
      while (rentals.hasMoreElements()) {
            double thisAmount = 0;
            Rental each = (Rental)rentals.nextElement();
            // determine amounts for each line
            switch (each.getMovie().getPriceCode()) {
                  case Movie.REGULAR:
                        thisAmount += 2;
                        if (each.getDaysRented() > 2)
                              thisAmount += (each.getDaysRented() –
                              2) * 1.5;
                        break;
                  case Movie.NEW_RELEASE:
                              thisAmount += each.getDaysRented() *
                              3;
                              break;
                  case Movie.CHILDRENS:
                              thisAmount += 1.5;
                              if (each.getDaysRented() > 3)
                                    thisAmount +=
                                    (each.getDaysRented() - 3) * 1.5;
                              break;
            }
            // add frequent renter points
            frequentRenterPoints++;
            // add bonus for a two day new release rental
            if ((each.getMovie().getPriceCode() ==
                  Movie.NEW_RELEASE) &&
                  each.getDaysRented() > 1) frequentRenterPoints++;
                  // show figures for this rental
                  result += \t + each.getMovie().getTitle() + \t +
                  String.valueOf( thisAmount ) + \n ;
                  totalAmount += thisAmount;
            }
            // add footer lines
            result += Amount owed is + String.valueOf( totalAmount )
            + \n ;
            result += You earned + String.valueOf(
            frequentRenterPoints ) + frequent renter points ;
            return result;
      }
}
```