Decorators and Strategies

## Overview of Approach

Diagram

Description automatically generated

As part of this assignment following are developed.

1. Coupon System – Composite design patter is used to develop coupon functionality . HalfOff and TenDollarOff classes are extended from CouponDiscount which implements Discounts. Discount class decorates shopping cart class.

TenDollarOff class - A coupon for a rental that takes 10$ off for a total rental of more than 50$.

HalfOff class - A coupon for a rental that allows 50% off the entire rental price

1. Renter points system – Strategy design pattern is used to calculate double renters points. DobulePointsRegularChildren and DoublePointsNewRelease implements FrequentRenterPoints interface.

DobulePointsRegularChildren class – Gives double regular points to any customer who is renting both regular and children movies.

DoublePointsNewRelease class - Gives double regular points to any customer who is 18-22 and renting one or multiple new release movies.

1. Free movie -This functionality is added as a part of discount because this will impact the totalcost calculation. FreeMovie class is extended from PointsDiscount which implements Discounts.

FreeMovie class - If a customer has 10 frequent renter points, he will get a free movie rental of any type.