CSCI 5448 Project 3

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This program uses Java to run a simulation of a rental store where customers request tools for a specified amount of time. The following pages include the UML Class diagram for the Rental Store

Customer
<<Abstact>>

- name : String
- type : String

+ setName(String n) : void
+ getName() : String
+ setType(String t) : void
+ getType() : String
+ rentTools(RentalStore store) : void

BusinessCustomer

+ BusinessCustomer()
+ rentTools() : void

RegularCustomer

+ RegularCustomer()
+ rentTools() : void

CasualCustomer

+ CasualCustomer()
+ rentTools() : void

RentalStoreFacade

- store : RentalStore
- businessCount : int
- casualCount : int
- regularCount : int

+ addCustomers(int numBusiness, int numCasual, int numRegular)
    : void
+ openStore(int numDays) : void
+ RentalStoreFacade()

RentalStore

- inventory : ArrayList<Tool>
- activeRentals : ArrayList<RentalAbstract>
- completedRentals : ArrayList<RentalAbstract>
- completedToday : ArrayList<RentalAbstract>
- customers : ArrayList<Customer>
- custToStore : ArrayList<Customer>
- dailyRevenue : double
- totalRevenue : double

+ RentalStore()
+ createRental(Customer cust, int numTools, int
    : void
+ addCustomers(ArrayList<Customers> custs) : void
+ nextDay() : void
+ printTotalRevenue : void
- generateInventory() : void
- sendCustsToStore() : void
+ getInventorySize() : int
+ getTotalRevenue() : double
+ printTotalRentals() : void
- printInventory() : void
- printActiveRentals() : void
- printCompletedRentals() : void
- printDailyRevenue() : void

ToolFactory

+ getTool(String toolType, String toolName)

Tool
<<Interface>>

+ getCost() : double
+ getDescription() : String

RentalAbstract
<<Abstract>>

- description : String
- isActive : boolean
- daysDue : int
- countDays : int
- toolsRented : ArrayList<Tool>

+ getDescription() : String
+ setDescription(String d) : void
+ getActiveStatus() : boolean
+ setDaysDue(int d) : void
+ getDaysDue() : int
+ setToolsRented(ArrayList<Tool> lst) : void
+ returnTools() : ArrayList<Tool>
+ addDay() : void
+ cost() : double
+ getCustomerType() : String

Rental

- customer : Customer

+ Rental(Customer cust, ArrayList<Tool toolList>
    , int dueDate)
+ cost()
+ getCustomerType() : String

RentalDecorator
<<Abstract>>

+ getDescription() : String

ExtensionChord

- rental : RentalAbstract

+ ExtensionChord(RentalAbstract r)
+ getDescription() : String
+ cost() : double
+ getCustomerType() : String

ProtectiveGear

- rental : RentalAbstract

+ ProtectiveGear(RentalAbstract r)
+ getDescription() : String
+ cost() : double
+ getCustomerType() : String

AccessoryKit

- rental : RentalAbstract

+ AccessoryKit(RentalAbstract r)
+ getDescription() : String
+ cost() : double
+ getCustomerType() : String

ConcreteTool
<<Abstract>>

- type : String
- name : String
- cost : double

+ getType() : String
+ getName() : String
+ getCost() : double
+ setName(String n) : void
+ getDescription() : String

WoodTool
<<Abstract>>

- type : String
- name : String
- cost : double

+ getType() : String
+ getName() : String
+ getCost() : double
+ setName(String n) : void
+ getDescription() : String

PaintTool
<<Abstract>>

- type : String
- name : String
- cost : double

+ getType() : String
+ getName() : String
+ getCost() : double
+ setName(String n) : void
+ getDescription() : String

YardTool
<<Abstract>>

- type : String
- name : String
- cost : double

+ getType() : String
+ getName() : String
+ getCost() : double
+ setName(String n) : void
+ getDescription() : String

PlumbingTool
<<Abstract>>

- type : String
- name : String
- cost : double

+ getType() : String
+ getName() : String
+ getCost() : double
+ setName(String n) : void
+ getDescription() : String

Mixer

+ Mixer(String name)

Jackhammer

+ Jackhammer(String name)

Saw

+ Saw(String name)

Sander

+ Sander(String name)

Brush

Brush(String name)

Roller

Roller(String name)

Rake

Rake(String name)

Shovel

Shovel(String name)

Wrench

Wrench(String name)

Plunger

Plunger(String name)