

UML Class Diagram

Dr. Vineyard CS101

Design for JavaLumen Corp. coffee sales

+	public
-	private
	package
#	protected

legend

+	CoffeePurchase
+	<u>main</u> (args:String [])

Data Table

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Data Table for main(args)		
<u>Variable or Constant</u>	<u>Type</u>	<u>Purpose</u>
args	String []	parameter, unused
BAG_PRICE	double	current charge for 2 lb. Bag
LARGE_BOX_PRICE	double	current charge for large box
MED_BOX_PRICE	double	current charge for large box
SMALL_BOX_PRICE	double	current charge for large box
BAGS_IN_LARGE	int	number of bags in large box
BAGS_IN_MED	int	number of bags in medium box
BAGS_IN_SMALL	int	number of bags in small box
customerName	String	name of customer
dayEntry	String	input of day
day	int	numeric day
monthEntry	String	input of month
month	int	numeric month
yearEntry	String	input of year
year	int	numeric year
purchaseDate	SimpleDate	record today's date
deliveryDate	SimpleDate	date order delivered to customer
poundsCoffeeEntry	String	input of amount purchased
poundsCoffeeDouble	double	numeric amount purchased
poundsCoffee	int	integer amount requested
bagsCoffee	int	number of bags purchased
coffeeCost	double	cost of coffee
currentBags	int	remaining bags, needed for box calculation
numberLargeBoxes	int	number of large boxes needed
numberMedBoxes	int	number of medium boxes needed
numberSmallBoxes	int	number of small boxes needed
largeBoxCost	double	cost of large boxes
medBoxCost	double	cost of medium boxes
smallBoxCost	double	cost of small boxes
MONEY_FORMAT	String	"\$#,##0.00" for standard money format
priceFormat	DecimalFormat	object to format double to money String
totalBoxCost	double	total cost of boxes
totalCostOfOrder	double	total cost of order (coffee and boxes)
coffeeCostDisplay	String	cost of coffee as money String
lgBoxDisplay	String	cost of large boxes as money String
medBoxDisplay	String	cost of medium boxes as money String
smBoxDisplay	String	cost of small boxes as money String
totalCostDisplay	String	totalCostOfOrder as money String
purchaseOrder	String	String containing entire purchase order

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Algorithm for main(args)

```

main(args)
  initialize BAG_PRICE
  initialize LARGE_BOX_PRICE
  initialize MED_BOX_PRICE
  initialize SMALL_BOX_PRICE
  initialize BAGS_IN_LARGE
  initialize BAGS_IN_MED
  initialize BAGS_IN_SMALL
  read customerName using JOptionPane showInputDialog
  read dayEntry
  read monthEntry
  read yearEntry
  day ← convert dayEntry to int (using Integer.parseInt)
  month ← convert monthEntry to int
  year ← convert yearEntry to int
  purchaseDate ← SimpleDate object from month, day, year
  deliveryDate ← SimpleDate object from month, day, year
  deliveryDate.nextDay()
  deliveryDate.nextDay()
  deliveryDate.nextDay()
  deliveryDate.nextDay()
  deliveryDate.nextDay()
  deliveryDate.nextDay()
  read poundsCoffeeEntry
  poundsCoffeeDouble ← convert poundsCoffeeEntry to double
  poundsCoffeeDouble ← ceiling of poundsCoffeeDouble
  poundsCoffee ← convert poundsCoffeeDouble to int
  bagsCoffee ← (poundsCoffee + 1)/2
  coffeeCost ← bagsCoffee * BAG_PRICE
  currentBags ← bagsCoffee
  numberLargeBoxes ← currentBags / BAGS_IN_LARGE
  currentBags ← currentBags % BAGS_IN_LARGE
  numberMedBoxes ← currentBags / BAGS_IN_MED
  currentBags ← currentBags % BAGS_IN_MED
  numberSmallBoxes ← (currentBags + 2) / BAGS_IN_SMALL
  largeBoxCost ← numberLargeBoxes * LARGE_BOX_PRICE
  medBoxCost ← numberMedBoxes * MED_BOX_PRICE
  smallBoxCost ← numberSmallBoxes * SMALL_BOX_PRICE
  initialize MONEY_FORMAT
  priceFormat ← construct DecimalFormat object from MONEY_FORMAT
  totalBoxCost ← largeBoxCost + medBoxCost + smallBoxCost
  totalCostOfOrder ← coffeeCost + totalBoxCost
  coffeeCostDisplay ← format coffeeCost using priceFormat
  lgBoxDisplay ← format largeBoxCost using priceFormat

```

Algorithm

```
medBoxDisplay ← format medBoxCost using priceFormat
smBoxDisplay ← format smallBoxCost using priceFormat
totalCostDisplay ← format totalCostOfOrder using priceFormat
purchaseOrder ← concatenate with labels all of customerName,
    purchaseDate, deliveryDate, bagsCoffee, coffeeCostDisplay,
    numberLargeBoxes, lgBoxDisplay, numberMedBoxes,
    medBoxDisplay, numberSmallBoxes, smBoxDisplay, totalCostDisplay
print purchaseOrder using JOptionPane showMessageDialog
```

Algorithm