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/*****
 *
 * File:          OrderCost.java
 *
 * Author:        Dan Gerstl
 *
 * Date:          04/28/2018
 *
 * Purpose:       Project 1
 *
 * Description:   Object for calculating and holding cost of the order
 *
 * Comment:       NA
 *
 *****/

public class OrderCost extends OrderBoxes
{
    /*** Class Constants ***/

    private final double DEFAULT_SUBTOTAL    = 0.0;
    private final double DEFAULT_ORDER_TOTAL = 0.0;

    /*** Local Variables ***/

    private double bagsCost      = 0.0;
    private double largeBoxesCost = 0.0;
    private double mediumBoxesCost = 0.0;
    private double smallBoxesCost = 0.0;
    private double orderTotal    = 0.0;

    /*** Constructors ***/

    public OrderCost(int bagsOrdered)
    {
        super(bagsOrdered);
        this.setBagsCost(DEFAULT_SUBTOTAL);
        this.setLargeBoxesCost(DEFAULT_SUBTOTAL);
        this.setMediumBoxesCost(DEFAULT_SUBTOTAL);
        this.setSmallBoxesCost(DEFAULT_SUBTOTAL);
        this.orderTotal = DEFAULT_ORDER_TOTAL;
    }

    /*** Class Methods - Transformers/Mutators ***/

    private void setBagsCost(double total)
    {
        if (total >= 0.0)
            this.bagsCost = total;
        else
            this.bagsCost = DEFAULT_SUBTOTAL;
    }

    private void setLargeBoxesCost(double total)
    {
        if (total >= 0.0)
            this.largeBoxesCost = total;
        else
            this.largeBoxesCost = DEFAULT_SUBTOTAL;
    }

    private void setMediumBoxesCost(double total)
    {
        if (total >= 0.0)

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        this.mediumBoxesCost = total;
    else
        this.mediumBoxesCost = DEFAULT_SUBTOTAL;
}

private void setSmallBoxesCost(double total)
{
    if (total >= 0.0)
        this.smallBoxesCost = total;
    else
        this.smallBoxesCost = DEFAULT_SUBTOTAL;
}

private double calculateSubtotal(int item, double cost)
{
    /*** Local Variables ***/

    double subtotal = 0.0;

    subtotal = item * cost;

    return subtotal;
}

public void calculateTotal()
{
    /*** Local Constants ***/

    final double BAG_COST      = 5.50;
    final double LARGE_BOX_COST = 1.80;
    final double MEDIUM_BOX_COST = 1.00;
    final double SMALL_BOX_COST = 0.60;

    /*** Calculate Boxes ***/

    this.calculateBoxesNeeded();

    /*** Calculate Subtotals ***/

    this.setBagsCost(calculateSubtotal(this.getBagsOrdered(),
                                        BAG_COST));

    this.setLargeBoxesCost(calculateSubtotal(this.getLargeBoxes(),
                                             LARGE_BOX_COST));

    this.setMediumBoxesCost(calculateSubtotal(this.getMediumBoxes(),
                                              MEDIUM_BOX_COST));

    this.setSmallBoxesCost(calculateSubtotal(this.getSmallBoxes(),
                                             SMALL_BOX_COST));

    /*** Calculate Total ***/

    this.orderTotal = this.bagsCost + this.largeBoxesCost +
                      this.mediumBoxesCost + this.smallBoxesCost;
}

/*** Class Methods - Accessors ***/

public double getBagsCost()
{
    return this.bagsCost;
}

public double getLargeBoxesCost()
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    {
        return this.largeBoxesCost;
    }

    public double getMediumBoxesCost()
    {
        return this.mediumBoxesCost;
    }

    public double getSmallBoxesCost()
    {
        return this.smallBoxesCost;
    }

    public double getOrderTotal()
    {
        return this.orderTotal;
    }

    @Override
    public String toString()
    {
        return "Bags ordered: "      + this.getBagsOrdered()      + " " +
               "Large boxes: "       + this.getLargeBoxes()        + " " +
               "Medium boxes: "      + this.getMediumBoxes()        + " " +
               "Small boxes: "       + this.getSmallBoxes()         + " " +
               "Bags cost: "         + this.getBagsCost()           + " " +
               "Large boxes cost: "  + this.getLargeBoxesCost()     + " " +
               "Medium boxes cost: " + this.getMediumBoxesCost()   + " " +
               "Small boxes cost: "  + this.getSmallBoxesCost()     + " " +
               "Order total : "      + this.getOrderTotal()        + " " ;
    }

    /*** Application ***/

    public static void main(String[] args)
    {
        OrderCost tester = new OrderCost(10);

        System.out.println(tester.toString());

        System.out.println("\n Calculating order total...\n");
        tester.calculateTotal();

        System.out.println(tester.toString());
    }
}

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