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1  /*Written by A Student for CS1301
2  On: Month, Day, Year
3  Purpose: Program passing input into formatted strings for a bill.
4  Serves as a tip calculator, calculates final total at restaurant.
5  User passes first argument as nominal bill amount and second as desired tip */
6
7  import CSCI.*; //import CSCI package(s)
8  public class TipCalculator //begin JCarpenterTipCalculator
9  {
10     final static double ERROR = 15; //declare Error constants
11     final static int INTERROR = 15;
12     final static String FORMAT = "          %10s =  $%7.2f"; //declare format for all
        receipt items
13     final static int SALESTAX = 7; //declare constant sales tax of 7%
14
15     public static void main(String[] args) //begin main
16     {
17         String billInput = args[0]; //record input arguments as strings
18         String tipInput = args[1];
19         double bill = CSCIConvert.Parse(billInput,ERROR); //take bill amount from
        commandline, if improperly entered, defaults to 15$
20         int tipPercent = CSCIConvert.Parse(tipInput,INTERROR); //allows individual to
        enter tip choice, if improperly entered, defaults to constant of 15 (calculator
        makes this a percent)
21         double salesTaxAmount = multPercent(bill, SALESTAX); //calculate sales tax by
        converting to percent
22         double subTotal = add(bill, salesTaxAmount); //calculate subtotal by adding sales
        tax to bill
23         double tipAmount = multPercent(subTotal, tipPercent); //calculate tip by
        converting to percent
24         double total = sumBill(subTotal, tipAmount); //add subtotal and tipAmount to find
        total
25
26         printOutput(bill, salesTaxAmount, subTotal, tipAmount, total); //print final
        receipt by calling printOutput method
27     } //end main, begin math methods
28
29     public static double add(double bill, double salesTaxAmount) //calculate subtotal
        using sales tax and input bill amount
30     {
31         double sub_total = bill + salesTaxAmount; //adds bill and salestaxamount and
        returns subtotal
32         return sub_total; //returns subtotal
33     }
34     public static double multPercent(double bill, int percentage) //multPercent method
        calculates sales tax or tip
35     {
36         double finalpercentage = (percentage/100.0)*bill; //calculate sales tax or tip
37         return finalpercentage; //returns percentage amount
38     }
39     public static double sumBill(double subtotal, double tipAmount) //calculate final
        bill total
40     {
41         double total = subtotal + tipAmount; //sums subtotal and tipamount
42         return total; //returns final bill total
43     }
44     //end math methods, begin printing methods
45     public static void printItem(String item, double amount) //printout method boolean
46     {
47         String line = String.format(FORMAT,item,amount); //format everything nice and
        tidy
48         System.out.println(line); //use java println to print out
49     }
50     public static void printOutput(double bill, double salesTaxAmount, double subTotal,
        double tipAmount, double total) //printout method
51     {
52         System.out.println("          ***Carpenter's Restaurant***"); //use java println to
        print out restaurant name
53         printItem("Bill", bill); //calls printItem method for each item on receipt

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54         printItem("Tax", salesTaxAmount);
55         printItem("Subtotal", subTotal);
56         printItem("Tip", tipAmount);
57         printItem("Total", total);
58     }    //end printing methods
59
60 } //end JCarpenterTipCalculator
61
```