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/** This program is designed to simulate a cashier
 * The program executes the following steps:
 * 1. Greets the user with a description of the program
 * 2. Opens 2 scanners for numerical and string input
 * 3. Prompts the user to enter how many items they
 * bought which is used to define a for loop
 * 4. A for loop loops for the number of items
 * and prompts the user to enter the name and
 * price of each item which are added to
 * itemListFormatted and moneyTotal
 * 5. The tax is determined by multiplying the money
 * by 6% (the tax rate)
 * 6. The tax is added to moneyTotal to create
 * moneyTotalWithTax
 * 7. The receipt is printed to the user with their total
 * 8. The user is asked to enter their payment
 * is asked to enter a satisfactory payment with a while loop
 * 9. Change is calculated into variables for their respective unit
 * of currency
 * 10. The amount of change owed is presented to the user
 */

/* Imports scanner module */
import java.util.Scanner;

public class feigenbaumCodingAssignment2 {
    public static void main(String[] args) {
        /* Displays program instructions (welcome message) */
        System.out.print("Welcome to the magnificent Java powered store.\n"
            + "This program takes your purchased items as input and will output
your total price (with tax).\n"
            + "The program will then prompt you to give your money to the
register.\n"
            + "The Java Cashier will then return you your change and confirm
your purchase went successfully.\n");

        /* Opens scanner for string input */
        Scanner scanString = new Scanner(System.in);
        /* Opens scanner for numerical input */
        Scanner scanNum = new Scanner(System.in);

        /* Prompts user to enter how many items they plan on checking out */
        System.out.print("How many items do you plan on checking out? \n" + "=> ");
        /* Collects user input for number of items */
        int numberOfItems = scanNum.nextInt();

        /* Creates string to format item names and prices */
        String itemListFormatted = "\nYou purchased:\n";
        /* Creates integer for item prices in pennies */
        int moneyTotal = 0;
        /* Creates string to store current input */
        String tempItemName;

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/* Creates double to store current item price */
double tempItemPrice;
/* For loop for user to enter all their items */
for (int itemNumber = 0; itemNumber < numberOfItems; itemNumber++) {
    /* Prompts user each time they enter an item */
    System.out.print("Please enter the name of your item\n" + "=> ");
    /* Adds item name to tempItemName */
    tempItemName = scanString.nextLine();
    /* Prompts user to enter price of that item */
    System.out.print("Please enter the price of your item\n" + "=> ");
    /* Adds item price to tempItemPrice */
    tempItemPrice = scanNum.nextDouble();
    /* Adds item and price to itemListFormatted */
    itemListFormatted += String.format("%s: $%.2f\n", tempItemName,
tempItemPrice);
    /* Adds item price to moneyTotal */
    moneyTotal += (int) (tempItemPrice * 100);
}

/* Computates tax in pennies */
double taxrate = 0.06;
int tax = (int) (moneyTotal * taxrate);
int moneyTotalWithTax = moneyTotal + tax;

/* Adds subtotal, tax and total to itemListFormatted */
itemListFormatted += String.format("Subtotal: $%.2f\n" + "Tax: $%.2f\n" +
"Total: $%.2f\n\n",
((double) (moneyTotal)) / 100, ((double) (tax)) / 100, ((double)
(moneyTotalWithTax)) / 100);

/* Prints out purchased items with prices */
System.out.print(itemListFormatted);

/*
 * Asks user to submit payment and collects that payment in pennies into
 * variable "payment"
 */
int payment = 0;
System.out.println("Please submit your payment");

/* Loops until user submits payment equal to or above moneyTotalWithTax */
do {
    System.out.print("=> ");
    payment = (int) (scanNum.nextDouble() * 100);
    if (payment < moneyTotalWithTax)
        System.out.printf("You still owe $%.2f\n", ((double)
(moneyTotalWithTax - payment)) / 100);
} while (payment < moneyTotalWithTax);

/* Determine how much change of each type is required */
int totalChange = payment - moneyTotalWithTax;
int changeLeft = totalChange;

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    int dollars = changeLeft / 100;
    changeLeft %= 100;
    int quarters = changeLeft / 25;
    changeLeft %= 25;
    int dimes = changeLeft / 10;
    changeLeft %= 10;
    int nickels = changeLeft / 5;
    changeLeft %= 5;
    int pennies = changeLeft;

    /*
     * Outputs amount of change owed and sections it into dollars, quarters,
dimes,
     * nickels, and pennies
     */
    System.out.printf("Thank you for your payment!\n"
        + "Your change owed is $%.2f.\n"
        + "Your change is %d dollars, %d quarters, %d dimes, %d nickels, and
%d pennies.",
        ((double) (totalChange)) / 100, dollars, quarters, dimes, nickels,
pennies);
    }
}

```