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/*
        Problem 3:      Pane Version
                                        mathematical manipulation
                                        converting a numeric value to a String
                                        NumberFormat (currency)
                                        if statement
                                        while statement
                                        try/catch block
        Programmer:     Wayne Spence
        Date:           September 10, 2003
        Program Name:   DME3Pane
*/

import javax.swing.*;
import java.text.*;

public class DME3Pane
{
    public static void main (String[] args)
    {

        //Declaring Variables
        String customerNameString = "";
        String customerTypeString = "R";
        int customerNumber= 0;
        int serviceType= 1;
        int meterReadingDay = 25;
        int meterReadingMonth = 1;
        int meterReadingYear = 2004;
        int kilowattHours = 0;
        int recordCount = 0;
        double fuelCharge;
        double fuelChargeRate = 0.025;

        String paneTitle = "Denton Municipal Utilities";
        String outputLine = "";
        String moreInput = "yes";

            while (!moreInput.equalsIgnoreCase("no"))
            {
            //Prompt and get input from user
                  customerNumber = promptUserInteger("customer number", customerNumber, 1, 99999);
            customerNameString = promptUserString ("customer name", customerNameString);
            customerTypeString = promptUserString ("customer type (R, C or G)", "R");
                  serviceType = promptUserInteger ("service type (1 or 2)", serviceType, 1, 2);
            meterReadingDay = promptUserInteger ("meter reading day", meterReadingDay, 1, 31);
            meterReadingMonth = promptUserInteger ("meter reading month", meterReadingMonth, 1, 12);
            meterReadingYear = promptUserInteger ("meter reading year", meterReadingYear, 2001, 2004);
            kilowattHours = promptUserInteger ("kilowatt hours usage (KWH)", kilowattHours, 1, 99999);
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        //Calculations
        fuelCharge = Math.round(kilowattHours * fuelChargeRate * 100.0)/100.0;
        NumberFormat currency = NumberFormat.getCurrencyInstance();
        String fuelChargeString = currency.format(fuelCharge);

        //Output
              recordCount++;
              String paneTitlePlus = paneTitle + ":  " + recordCount + " record(s) processed.";
        outputLine = "\nThe fuel charge for " + kilowattHours +
              " KWH used by "+ customerNameString + " is " + fuelChargeString;
        JOptionPane.showMessageDialog(null, outputLine,
                  paneTitlePlus, JOptionPane.PLAIN_MESSAGE);
              moreInput = JOptionPane.showInputDialog(null, "Do you wish to continue entering input? (Yes or No)",
                    paneTitle, JOptionPane.PLAIN_MESSAGE);
        }
        System.exit(0);
}

  private static int promptUserInteger (String userPrompt, int initialValue, int minValue, int maxValue)
  {
        boolean goodData = false;
        String outputLine = "";
        String initialValueString = Integer.toString(initialValue);
        int intNumber = 0;

        while (!goodData)
        {
        String intNumberString =
              JOptionPane.showInputDialog(null, "What is the " + userPrompt + "?", initialValueString);
        try
        {
              intNumber = Integer.parseInt(intNumberString);
              if (intNumber < minValue || intNumber > maxValue)
                    {     outputLine = "The " + userPrompt + " should be between " +
                          minValue + " and " + maxValue + ".";
                          displayMessage(outputLine);
                    }
              else
                    goodData = true;
              }
              catch (NumberFormatException e)
              {
                    outputLine = "You have not entered digits for the " + userPrompt + ".";
                    displayMessage(outputLine);
              }
        }
        return intNumber;
  }

  private static String promptUserString (String userPrompt, String initialValue)
```

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	{
		boolean goodData = false;
	  String outputLine = "";
		String stringData = "";
		while (!goodData)
		{
		stringData =
			JOptionPane.showInputDialog(null, "What is the " + userPrompt + "?",
			initialValue);
			goodData = true;
		}
		return stringData;
	}


	private static void displayMessage (String messageText)
	{
		String errorTitle = "An error has occurred";
		messageText = messageText + "\nPlease, try again!";

		JOptionPane.showMessageDialog(null, messageText, errorTitle,
			JOptionPane.ERROR_MESSAGE);
	}

}
```