

```

/*****
*
* File:      Invoice.java
*
* Author:    Dan Gerstl
*
* Date:      04/29/2018
*
* Purpose:   Project 1
*
* Description: Object to generate invoice
*
* Comment:    NA
*
*****/

import java.time.*;

public class Invoice
{
    /*** Class Constants ***/

    private final static String FORMAT_STRING = "%26s:";

    private final static String STRING_TOTAL = FORMAT_STRING +
                                                "%15s$    %, .2f%n";

    /*** Private Constructor ***/

    private Invoice()
    {
    }

    /*** Class Methods ***/

    public static String createInvoice(ClientInformation clientInfo,
                                      OrderCost cost)
    {
        /*** Local Variables ***/

        StringBuilder invoice = new StringBuilder();

        invoice.append(createHeader(clientInfo, cost));
        invoice.append(createBoxesInfo(cost));
        invoice.append(createDateInfo());
        invoice.append(createShippingInfo(clientInfo));

        return invoice.toString();
    }

    private static String createHeader(ClientInformation clientInfo,
                                      OrderCost cost)
    {
        /*** Local Constants ***/

        final String STRING_NAME = FORMAT_STRING + "    %s%n";
        final String STRING_BAGS = FORMAT_STRING + "    %-4d%n";

        /*** Local Variables ***/

        StringBuilder header = new StringBuilder();

        /*** Generate Header ***/

        header.append(String.format(STRING_NAME, "Customer name",

```

```

        clientInfo.getFirstName() + " " +
        clientInfo.getLastName()));

    header.append(String.format(String_BAGS, "Number of bags ordered",
                                cost.getBagsOrdered()));

    header.append(String.format(String_TOTAL, "Purchase price", "",
                                cost.getBagsCost()));

    return header.toString();
}

private static String createBoxesInfo(OrderCost boxes)
{
    /*** Local Constants ***/

    final String FORMAT_BOXES = "%30s:%3d%6s: $    %, .2f%n";

    /*** Local Variables ***/

    StringBuilder boxesInfo = new StringBuilder();

    /*** Generate Boxes Information ***/

    boxesInfo.append(String.format("%n" + FORMAT_STRING + "%n",
                                   "Boxes used"));

    boxesInfo.append(String.format(FORMAT_BOXES, "Large",
                                   boxes.getLargeBoxes(), "Cost",
                                   boxes.getLargeBoxesCost()));

    boxesInfo.append(String.format(FORMAT_BOXES, "Medium",
                                   boxes.getMediumBoxes(), "Cost",
                                   boxes.getMediumBoxesCost()));

    boxesInfo.append(String.format(FORMAT_BOXES, "Small",
                                   boxes.getSmallBoxes(), "Cost",
                                   boxes.getSmallBoxesCost()));

    boxesInfo.append(String.format("%n%n" + String_TOTAL, "Total cost",
                                   "", boxes.getOrderTotal()));

    return boxesInfo.toString();
}

private static String createDateInfo()
{
    /*** Local Constants ***/

    final String String_DATE = FORMAT_STRING + "%9s%3s, %4s%n";

    /*** Local Variables ***/

    LocalDate currentDate = LocalDate.now();
    LocalDate futureDate  = LocalDate.now().plusWeeks(2);

    String currentMonth = currentDate.getMonth().toString();
    String futureMonth  = futureDate.getMonth().toString();

    StringBuilder dateInfo = new StringBuilder();

    /*** Correct capitalization on months ***/

    currentMonth = formatMonth(currentMonth);
    futureMonth  = formatMonth(futureMonth);

```

```

    /*** Generate Date Information ***/

    dateInfo.append(String.format("%n" + STRING_DATE,
                                   "Date of order", currentMonth,
                                   currentDate.getDayOfMonth(),
                                   currentDate.getYear()));

    dateInfo.append(String.format(STRING_DATE + "%n",
                                   "Expected date of arrival",
                                   futureMonth,
                                   futureDate.getDayOfMonth(),
                                   futureDate.getYear()));

    return dateInfo.toString();
}

private static String createShippingInfo(ClientInformation clientInfo)
{
    /*** Local Constants ***/

    final String FORMAT_ADDRESS_LINE_1 = "%19s%4s%-1s%n";
    final String FORMAT_ADDRESS_LINE_2 = "%23s%s";

    /*** Local Variables ***/

    String addressLine2 = null;

    StringBuilder shippingInfo = new StringBuilder();

    /*** Create city, state, zip line ***/

    addressLine2 = clientInfo.getCity() + ", " + clientInfo.getState() +
                   " " + clientInfo.getZipCode();

    /*** Generate Shipping Address ***/

    shippingInfo.append(String.format(FORMAT_ADDRESS_LINE_1,
                                       "Shipping address:", "",
                                       clientInfo.getStreetAddress()));

    shippingInfo.append(String.format(FORMAT_ADDRESS_LINE_2,
                                       "", addressLine2));

    return shippingInfo.toString();
}

/*** Class Helper Methods ***/

private static String formatMonth(String uppercaseMonth)
{
    /*** Local Variables ***/

    String month = null;

    month = uppercaseMonth.substring(0,1) +
            uppercaseMonth.substring(1).toLowerCase();

    return month;
}

/*** Application ***/

public static void main(String[] args)
{
    OrderCost cost = new OrderCost(31);

```

```
        ClientInformation info = new ClientInformation("first", "last",  
                                                       "1234 street road",  
                                                       "city", "state",  
                                                       "zip");  
  
        System.out.println(createInvoice(info, cost));  
    }  
}
```