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| Course: | INFO-6066 Coding for Test |
| Project: | Project #1 – *Iglasses* |
| Due Date: | Friday, October 12th at 8:00 pm |
| Submitting: | Please see the last page for instructions. |
| Professor: | **Mike Clarkson** |
| Student Name: | *\_\_*Harita Gandhi*\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_* |
|  |  |
| Student ID#: | \_\_901407\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
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How will my project be marked?

If the program fails to compile, a Mark of 0 will be entered.

* This project accounts for 10% of your final mark and will be marked as follows:

|  |  |  |
| --- | --- | --- |
| **Marks Available** | **What are the Marks Awarded For?** | **Mark Assigned** |
|  | **If the program fails to compile, a mark of 0 will be entered.** |  |
| 2 | Correctly typed variables are created with good descriptive names to hold the input data |  |
| 2 | User is prompted to enter data and data is successfully read from the keyboard and assigned to the variables |  |
| 2 | Calculation of number of safety boxes needed is correct in all cases |  |
| 2 | Calculations of the number of IGlasses shipped and not shipped are correct |  |
| 2 | Calculation of extra capacity is correct and only displayed only if there is extra room in the safety boxes |  |
| 2 | Cost of the IGlasses and appropriate credit applied, if necessary, are displayed and formatted correctly. |  |
| 1 | Program documentation header is present and complete |  |
| 2 | Good coding style including proper indentation and suitable comments |  |
| 15 | Total |  |

**package** a1;

**import** java.util.Scanner;

/\*

Filename: iGlass.java

Name: Harita Gandhi

Date: Sep 27, 2018

Time: 6:37:14 PM

Description: This program calculates the shipping details of iGlasses.

It calculate the minimum number of safety boxes needed to ship all the glasses in a single order and total order amount.

\*/

**public** **class** iGlass

{

**public** **static** **void** main(String[] args)

{

// creating scanner object

Scanner input = **new** Scanner(System.***in***);

// Displaying Title

System.***out***.println("\n\t\t\t\tiGlass Shipping Deatils!");

System.***out***.println("\t\t\t\t\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*");

String companyName;

**double** pricePerIglass;

**int** totaliGlass;

**int** iGlassPerBox;

**int** availSafetyBox;

**double** orderTotal;

**int** minSafetyBox;

**int** extraPair;

**int** remainingPair;

**int** shippingPair;

**double** creditDue;

**double** finalBill;

**double** percentageShipping;

System.***out***.println("First some information is needed...");

System.***out***.println("\n");

// ask for the company name

System.***out***.print("Enter the comapny that is placing the order: ");

companyName = input.nextLine();

// ask for price per iGlass

System.***out***.print("Please state the price per IGlass that was quoted for this order: $");

pricePerIglass = input.nextDouble();

// ask for number of IGlasses they wish to order

System.***out***.print("Enter the number of IGlasses that " + companyName + " would like to order: ");

totaliGlass = input.nextInt();

// ask for number of iGlasses in a safety box

System.***out***.print("Enter the maximum number of IGlasses that can be shipped in each safety box: ");

iGlassPerBox = input.nextInt();

// ask for available safety boxes

System.***out***.print("Enter the number of safety boxes that are available for this order: ");

availSafetyBox = input.nextInt();

System.***out***.println("\n");

// Calculating total Order

orderTotal = totaliGlass \* pricePerIglass;

System.***out***.println("Thank you for your order. The order is being processed and shipping details will follow:");

System.***out***.println("Please be advised that your order totals " + String.*format*("$%,.2f", orderTotal) + ".");

System.***out***.println("\n");

System.***out***.println("Here are the results...");

System.***out***.println("\n");

// finding minimum safety boxes

**if** (totaliGlass % iGlassPerBox == 0)

{

minSafetyBox = totaliGlass / iGlassPerBox;

}

**else**

{

minSafetyBox = totaliGlass / iGlassPerBox + 1;

}

System.***out***.println("A minimum of " + minSafetyBox + " safety boxes are required to ship the entire order.");

**if** (minSafetyBox == availSafetyBox)

{

System.***out***.println(totaliGlass + " iGlasses (100%) are being shipped");

extraPair=(availSafetyBox \* iGlassPerBox)-totaliGlass;

**if**(extraPair>0)

{

System.***out***.println("There would be room for an extra " + extraPair + " pair(s) of IGlasses.");

}

}

**else** **if** (availSafetyBox > minSafetyBox)

{

System.***out***.println(totaliGlass + " iGlasses (100%) are being shipped");

extraPair = (availSafetyBox - minSafetyBox) \* iGlassPerBox;

System.***out***.println("There would be room for an extra " + extraPair + " pair(s) of IGlasses.");

}

**else**

{

System.***out***.println("Unfortunately we only have " + availSafetyBox + " safety boxes available for shipping");

// Calculating shipping pair

shippingPair = availSafetyBox \* iGlassPerBox;

percentageShipping= (**int** )((10000.0 \* shippingPair)/totaliGlass+0.5)/100.0;

System.***out***.println(shippingPair + "(" + percentageShipping +"%) IGlasses are being shipped.");

//Calculating pairs which cannot be shipped

remainingPair = totaliGlass - shippingPair;

System.***out***.println(remainingPair + "(" + (**int**)((100.0-percentageShipping)\*100.0 )/100.0 +"%) IGlasses cannot be shipped.");

//Calculating the credit and final bill

creditDue= orderTotal -(shippingPair\*pricePerIglass);

finalBill= orderTotal-creditDue;

System.***out***.println("Since we have not been able to ship the entire order, you will be getting a credit of: "+ String.*format*("$%,.2f", creditDue) +". Your invoice now totals: "+String.*format*("$%,.2f", finalBill)+ "." );

}

input.close();

}

}