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1 //Grading ID : B3051
2 //Program Number: 1
3 //Due Date: Sep. 26, 2017
4 //Course Number: 199-75
5 //Program Info: This program takes inputs about a deminsion and features of a room ↗
   and calculates the number of paint gallons to buy
6           //in order to paint the whole room correctly.
7
8 using System;
9 using System.Collections.Generic;
10 using System.ComponentModel;
11 using System.Data;
12 using System.Drawing;
13 using System.Linq;
14 using System.Text;
15 using System.Threading.Tasks;
16 using System.Windows.Forms;
17
18 namespace Program1
19 {
20     public partial class Form1 : Form
21     {
22
23         double length; //length of room (user input)
24         double height; //height of room (user input)
25         int doors; //number of doors in room (user input)
26         int windows; //number of windows in room (user input)
27         int coats; //number of coats of paint to use in room (user input)
28         const int DOORSIZE = 20; //size of one door (Constant)
29         const int WINDOWSIZE = 15; //size of one window (Constant)
30         const int PAINTCAN = 350; //size of one paintcan (Constant)
31         double minimumGallons; //minimum gallons needed to be purchased ↗
           (Calculation)
32         int gallonsToPurchase; //Number of paint cans to purchase (rounded from ↗
           minimumGallons)
33
34
35
36         public Form1()
37         {
38             InitializeComponent();
39         }
40
41         //Calculate button event. Once pressed it begins calculations
42         private void calculateButton_Click(object sender, EventArgs e)
43         {
44             length = double.Parse(lengthTextBox.Text);
45             height = double.Parse(heightTextBox.Text);
46             doors = int.Parse(doorsTextBox.Text);
```

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47     windows = int.Parse(windowsTextBox.Text);
48     coats = int.Parse(coatsTextBox.Text);
49
50     //IF Statement checks to see if all numbers are 0 or positive. If neg
        number is found, it does not calculate and produces an error
        message.
51     if (length<0 || height<0 || doors<0 || windows<0 || coats < 0)
52     {
53         MessageBox.Show("Sorry, the calculation could not be completed.
            Please make sure all numbers are greater than zero.", "Error");
54     }
55     else
56     {
57         minimumGallons = (((length * height) - ((doors * DOORSIZE) +
            (windows * WINDOWSIZE))) * coats) / PAINTCAN;
58         gallonsToPurchase = (int)Math.Ceiling(minimumGallons);
59         outputLabel.Text = $"You need a mininum of {minimumGallons:F1}
            gallons of paint. However, you will need to buy
            {gallonsToPurchase} gallons, though.";
60     }
61 }
62 }
63 }
64 }
```