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1 'Shaw_Doyle
2 'RCET0265
3 'Spring 2020
4 'Car_Rental_Program
5 'https://github.com/shawdoyl/DHS-VS-S20
6
7 Option Explicit On
8 Option Strict On
9 Option Compare Binary
10
11 Public Class CarRentalForm
12     Dim numCustomers As Integer
13     Dim totalMiles As Decimal
14     Dim totalCharges As Decimal
15     Dim totalDiscount As Decimal = 0
16
17     Private Sub RentalForm_Load(sender As Object, e As EventArgs) Handles Me.Load
18
19         ResetAll()
20         SummaryButton.Enabled = False
21
22     End Sub
23
24     Sub ResetAll()
25
26         'Clear User input
27         NameTextBox.Text = ""
28         AddressTextBox.Text = ""
29         CityTextBox.Text = ""
30         StateTextBox.Text = ""
31         ZipCodeTextBox.Text = ""
32         BeginOdometerTextBox.Text = ""
33         EndOdometerTextBox.Text = ""
34         DaysTextBox.Text = ""
35         MilesRadioButton.Select()
36         AAACheckBox.Checked = False
37         SeniorCheckBox.Checked = False
38         'Clear Output
39
40     End Sub
41
42     Private Sub CalculateButton_Click(sender As Object, e As EventArgs) Handles  CalculateButton.Click
43
44         Dim dataValidated As Boolean = False
45         Dim userMessage As String = ""
46         Dim beginOdo As Decimal
47         Dim endOdo As Decimal
48         Dim numberOfDays As Integer
49         Dim beginOdometerGood As Boolean = False
50         Dim endOdometerGood As Boolean = False
51         Dim daysNumGood As Boolean = False
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52
53     If NameTextBox.Text = "" Then
54         userMessage = "Please enter a Name." & vbNewLine
55     End If
56     If AddressTextBox.Text = "" Then
57         userMessage &= "Please enter the Address." & vbNewLine
58     End If
59     If CityTextBox.Text = "" Then
60         userMessage &= "Please enter the City." & vbNewLine
61     End If
62     If StateTextBox.Text = "" Then
63         userMessage &= "Please enter the State." & vbNewLine
64     End If
65     If ZipCodeTextBox.Text = "" Then
66         userMessage &= "Please enter the Zip Code." & vbNewLine
67     End If
68     If BeginOdometerTextBox.Text = "" Then
69         userMessage &= "Please enter the beginning odometer reading." &
70             vbNewLine
71     End If
72     If EndOdometerTextBox.Text = "" Then
73         userMessage &= "Please enter the end odometer reading." & vbNewLine
74     End If
75     If DaysTextBox.Text = "" Then
76         userMessage &= "Please enter the number of days." & vbNewLine
77     End If
78     'if any of the last 3 are not blank, check to see if they are valid
79     integers
80     If BeginOdometerTextBox.Text <> "" Or EndOdometerTextBox.Text <> "" Or
81         DaysTextBox.Text <> "" Then
82         Try
83             beginOdo = CDec(BeginOdometerTextBox.Text)
84             beginOdometerGood = True
85         Catch ex As Exception
86             'did not convert to dec
87             userMessage &= "Please enter a valid beginning odometer reading" &
88                 vbNewLine
89         End Try
90     Try
91         endOdo = CDec(EndOdometerTextBox.Text)
92         endOdometerGood = True
93     Catch ex As Exception
94         userMessage &= "Please enter a valid ending odometer reading" &
95             vbNewLine
96     End Try
97     If beginOdometerGood = True And endOdometerGood = True Then
98         'as long as both values converted to dec, compare them
99         If beginOdo < endOdo Then
100             'do nothing. Beg is less than end
101         Else
102             userMessage &= "The ending odometer reading must be greater"
```

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    than the
100     starting odometer reading. Please fix this to continue." &
        vbNewLine _
101     & vbNewLine
102     End If
103 End If
104 Try
105     numberOfDays = CInt(DaysTextBox.Text)
106     If numberOfDays > 0 And numberOfDays <= 45 Then
107         'days is ok
108         daysNumGood = True
109     Else
110         'if this line is entered, days input is a number but not in
            range
111         userMessage &= "The number of days must be between 0 and 45." &
            vbNewLine
112     End If
113 Catch ex As Exception
114     userMessage &= "Please enter a valid number for the amount of
        days." _
115     & vbNewLine
116 End Try
117 End If
118
119 If userMessage <> "" Then
120     MsgBox(userMessage)
121     'following 3 ifs clears bad data
122     If beginOdometerGood = False Then
123         BeginOdometerTextBox.Text = ""
124     End If
125     If endOdometerGood = False Then
126         EndOdometerTextBox.Text = ""
127     End If
128     If daysNumGood = False Then
129         DaysTextBox.Text = ""
130     End If
131
132     'Following ifs determines which bad data to select (last instance is
        selected)
133     'if statements for each text box, from name to days.
134     'If bad, Then NameTextBox.Select()
135     If daysNumGood = False Then
136         DaysTextBox.Select()
137     End If
138     If endOdometerGood = False Then
139         'endOdoGood corresponds to validation of end odo text
140         EndOdometerTextBox.Select()
141     End If
142     If beginOdometerGood = False Then
143         'begOdoGood corresponds to validation of begin odo text
144         BeginOdometerTextBox.Select()
145     End If

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```
146         If ZipCodeTextBox.Text = "" Then
147             ZipCodeTextBox.Select()
148         End If
149         If StateTextBox.Text = "" Then
150             StateTextBox.Select()
151         End If
152         If CityTextBox.Text = "" Then
153             CityTextBox.Select()
154         End If
155         If AddressTextBox.Text = "" Then
156             AddressTextBox.Select()
157         End If
158         If NameTextBox.Text = "" Then
159             NameTextBox.Select()
160         End If
161     Else
162         dataValidated = True
163     End If
164
165     If dataValidated = True Then
166         'validation checks out. do math here
167         Dim milesDriven As Decimal = 0
168         Dim dayCharge As Integer = 0
169         Dim mileCharge As Decimal = 0
170         Dim totalOwed As Decimal = 0
171
172         If MilesRadioButton.Checked = True Then
173             milesDriven = endOdo - beginOdo
174         Else
175             milesDriven = (endOdo - beginOdo) * 0.62D
176         End If
177         MileageTextBox.Text = Math.Round(milesDriven, 2).ToString("N")
178
179         'daily charge = days * $15
180         dayCharge = numberOfDays * 15
181         DayChargeTextBox.Text = dayCharge.ToString("C")
182
183         MileageCharge(milesDriven)
184
185         Dim subTotal As Decimal
186         subTotal = mileCharge + dayCharge
187
188         Discount(subTotal)
189
190         MileageTextBox.Text = Str(mileCharge)
191         DiscountTextBox.Text = totalDiscount.ToString("c")
192
193         totalOwed = mileCharge + dayCharge - totalDiscount
194         TotalOwedTextBox.Text = totalOwed.ToString("c")
195
196         'Add to the number of customers, and total charges and miles
197         numCustomers += 1
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198         totalMiles += milesDriven
199         totalCharges += totalOwed
200         SummaryButton.Enabled = True
201         ResetAll()
202     End If
203
204 End Sub
205
206 Private Sub SummaryButton_Click(sender As Object, e As EventArgs) Handles SummaryButton.Click
207     'show summary
208     Dim totalSummary As String = ""
209     totalSummary = "Total Customers:      " & numCustomers.ToString & vbNewLine
210     totalSummary &= "Total Miles Driven:  " & totalMiles.ToString("n") & " mi & vbNewLine
211     totalSummary &= "Total charges:      " & totalCharges.ToString("c") & vbNewLine
212     MessageBox.Show(totalSummary, "Detailed Summary")
213     ResetAll()
214     'clear all output boxes
215     MileageTextBox.Text = ""
216     MileageChargeTextBox.Text = ""
217     DayChargeTextBox.Text = ""
218     DiscountTextBox.Text = ""
219     TotalOwedTextBox.Text = ""
220 End Sub
221
222 Function AllChecksAreValid() As Boolean
223     Dim result As Boolean
224
225     'VerifyOdmeter
226     'VerifyIfEmpty
227     'ValidateNumberOfDays
228
229
230     result = False
231     Return result
232 End Function
233 Function Discount(totalCharges As Decimal) As Decimal
234     'Use the check boxes for AAA Member And Senior Citizen.
235     'AAA members receive a 5% discount
236     'senior citizens get a 3% discount.
237     'A person can receive both discounts.
238     'Do Not take the discount until the calculate button Is clicked.
239
240     Const AAARATE = 0.05D
241     Const SENIORRATE = 0.03D
242
243
244     If AAACheckBox.Checked = True Then
245         totalDiscount += totalCharges * AAARATE
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246     End If
247
248     If SeniorCheckBox.Checked = True Then
249         totalDiscount += totalCharges * SENIORRATE
250     End If
251
252     Return totalDiscount
253 End Function
254
255 Sub VerifyOdometer()
256     Dim userMessage As String
257
258     Try
259         If CInt(BeginOdometerTextBox.Text) > CInt(EndOdometerTextBox.Text)
260             Then
261                 userMessage = "Beginning odometer must be smaller than Ending
262                     odometer"
263             End If
264         Catch ex As Exception
265             userMessage = "Odometer entries must be numbers"
266         End Try
267 End Sub
268
269 Function MileageCharge(ByRef miles As Decimal) As Decimal
270     'First 200 miles driven are always free.
271     'All miles between 201 And 500 inclusive are .12 cents per mile.
272     'miles greater than 500 are charged at .10 cents per mile.
273
274     Dim mileCharge As Decimal
275
276     Const RATEREGULAR = 0.12D
277     Const RATELOW = 0.1D
278     Const RATEFREE = 0D
279
280     Select Case miles
281     Case <= 200
282         mileCharge = miles * RATEFREE
283     Case > 500
284         mileCharge = (300) * RATEREGULAR
285         mileCharge += (miles - 500) * RATELOW
286     Case Else
287         mileCharge = (miles - 200) * RATEREGULAR
288     End Select
289
290     Return mileCharge
291 End Function
292
293 Function UserMessages(addMessage As Boolean, message As String, clearMessage
294     As Boolean) As String
295     Static formattedMessages As String
```

```
295
296     If clearMessage = True Then
297         formattedMessages = ""
298     ElseIf addMessage = True Then
299         formattedMessages &= message & vbNewLine
300     End If
301
302     Return formattedMessages
303 End Function
304
305 Private Sub ClearButton_Click(sender As Object, e As EventArgs) Handles 
306     ClearButton.Click
307     ResetAll()
308 End Sub
309
310 Private Sub ExitButton_Click(sender As Object, e As EventArgs) Handles 
311     ExitButton.Click
312     Me.Close()
313 End Sub
314 End Class
```