```vb
 1  'Program name: Scuba Expeditions Application
 2  'Author:        Juan Carlos Flores Palacios
 3  'Date:          Jan 30, 2023
 4  'Purpose:       The Scuba Expeditions App determines the location and
 5  '               scuba dives available and calculates the
 6  '               totaldive team cost
 7
 8  Option Strict On
 9  Public Class frmScuba
10      'Class variables
11      Private _intFourHour As Integer = 4
12      Private _intSixHour As Integer = 6
13      Private _intEighHour As Integer = 8
14      Private _strDive1 As String = "Great Barrier Reef"
15      Private _strDive2 As String = "Tiger Shark"
16      Private _strDive3 As String = "Fathom Chasm"
17      Private _strDive4 As String = "Great Blue Chasm"
18      Private _strDive5 As String = "Rainbow Reef"
19      Private _strDive6 As String = "Namena Sunken Ship"
20
21      Private Sub cboLocation_SelectedIndexChanged(sender As Object, e As      ⏎
          EventArgs) Handles cboLocation.SelectedIndexChanged
22          'This event handler allows the user to enter the location choice and then ⏎
              calls subprocedures to place the dive types in the list
23          Dim intLocationChoice As Integer
24
25          intLocationChoice = cboLocation.SelectedIndex
26          lstDive.Items.Clear()
27          Select Case intLocationChoice
28              Case 0
29                  AustraliaTeam()
30              Case 1
31                  BelizeTeam()
32              Case 2
33                  FijiTeam()
34          End Select
35
36          'Make items visible in the window
37          lblTeam.Visible = True
38          txtTeam.Visible = True
39          lblSelect.Visible = True
40          lstDive.Visible = True
41          btnDiveCost.Visible = True
42          btnClear.Visible = True
43          lblScubaDive.Visible = True
44          lblCost.Visible = True
45          lblLenght.Visible = True
46
47          'Clear the labels
48          lblScubaDive.Text = ""
49          lblCost.Text = ""
50          lblLenght.Text = ""
```

```vb
51
52              'Set focus on number in dive team text box
53              txtTeam.Focus()
54      End Sub
55      Private Sub AustraliaTeam()
56              'This procedure fills in the possible dive types offered in Australia
57              lstDive.Items.Add(_strDive1)
58              lstDive.Items.Add(_strDive2)
59              lstDive.Items.Add(_strDive3)
60      End Sub
61
62      Private Sub BelizeTeam()
63              'This procedure fills in the possible dive types offered in Belize
64              lstDive.Items.Add(_strDive4)
65              lstDive.Items.Add(_strDive4)
66      End Sub
67
68      Private Sub FijiTeam()
69              'This procedure fills in the possible dive types offered in Australia
70              lstDive.Items.Add(_strDive2)
71              lstDive.Items.Add(_strDive3)
72              lstDive.Items.Add(_strDive6)
73      End Sub
74
75
76      Private Sub btnDiveCost_Click(sender As Object, e As EventArgs) Handles     ⮑
          btnDiveCost.Click
77              'This button event handlaer determines the cost of scuba expeditions and
78              'displays the size of dive team, the cost, and the lenght of the dive
79
80              Dim intTeamSize As Integer
81              Dim blnNumberInTeamIsValid As Boolean = False
82              Dim blnDiveIsSelected As Boolean = False
83              Dim intDiveChoice As Integer
84              Dim strSelectedTeam As String = ""
85              Dim intLocationChoice As Integer
86              Dim intLenght As Integer = 0
87              Dim decTotalCost As Decimal
88
89              'Call a function to ensure the number of peaople in the dive team is     ⮑
                  valid
90              blnNumberInTeamIsValid = ValidateNumberInTeam()
91              'Call a function to ensure a scuba dive was selected
92              intDiveChoice = ValidateDiveSelection(blnDiveIsSelected, strSelectedTeam)
93
94              'If number of peaple and the dive trip are valid, calculate the cost
95              If (blnNumberInTeamIsValid And blnDiveIsSelected) Then
96                  intTeamSize = Convert.ToInt32(txtTeam.Text)
97                  intLocationChoice = cboLocation.SelectedIndex
98                  Select Case intLocationChoice
99                      Case 0
100                         decTotalCost = AustraliaDiveCost(intDiveChoice, intTeamSize,  ⮑
```

```vb
                             intLenght)
101                     Case 1
102                         decTotalCost = BelizeDiveCost(intDiveChoice, intTeamSize, ⮢
                             intLenght)
103                     Case 2
104                         decTotalCost = FijiDiveCost(intDiveChoice, intTeamSize, ⮢
                             intLenght)
105                 End Select
106
107                 'Display the cost of scuba dive
108                 lblScubaDive.Text = "Dive: " & strSelectedTeam
109                 lblCost.Text = "Cost: " & decTotalCost.ToString("C")
110                 lblLenght.Text = "Lenght: " & intLenght.ToString() & " hours"
111
112             End If
113
114         End Sub
115         Private Function ValidateNumberInTeam() As Boolean
116             'This procedure validates the value entered for the dive team size
117             Dim intTeamSize As Integer
118             Dim blnValidityCheck As Boolean = False
119             Dim strNumberInTeamMessage As String = "Please enter the number of people ⮢
                 in your dive team (2-6)"
120             Dim strMessageBoxTitle As String = "Error"
121             Try
122                 intTeamSize = Convert.ToInt32(txtTeam.Text)
123                 If intTeamSize >= 2 And intTeamSize <= 6 Then
124                     blnValidityCheck = True
125                 Else
126                     MsgBox(strNumberInTeamMessage,, strMessageBoxTitle)
127                     txtTeam.Focus()
128                     txtTeam.Clear()
129                 End If
130
131             Catch Exception As FormatException
132                 MsgBox(strNumberInTeamMessage,, strMessageBoxTitle)
133                 txtTeam.Focus()
134                 txtTeam.Clear()
135
136             Catch Exception As OverflowException
137                 MsgBox(strNumberInTeamMessage,, strMessageBoxTitle)
138                 txtTeam.Focus()
139                 txtTeam.Clear()
140
141             Catch Exception As SystemException
142                 MsgBox(strNumberInTeamMessage,, strMessageBoxTitle)
143                 txtTeam.Focus()
144                 txtTeam.Clear()
145
146             End Try
147             Return blnValidityCheck
148         End Function
```

```vb
149        Private Function ValidateDiveSelection(ByRef blnDive As Boolean, ByRef
             strDive As String) As Integer
150            'This function ensures the user selected a dive type
151            Dim intDiveType As Integer
152
153            Try
154                intDiveType = Convert.ToInt32(lstDive.SelectedIndex)
155                If intDiveType >= 0 Then
156                    strDive = lstDive.SelectedItem.ToString()
157                    blnDive = True
158                Else
159                    MsgBox("Select a Dive Type",, "Error")
160                    blnDive = False
161                End If
162
163            Catch Exception As SystemException
164                'Detects if a dive type is not selected
165                MsgBox("Select a Dive Type",, "Error")
166                blnDive = False
167            End Try
168            Return intDiveType
169        End Function
170        Private Function AustraliaDiveCost(ByVal intDive As Integer, ByVal intTeam As
             Integer, ByRef intTime As Integer) As Decimal
171            'This functiono calculates the cost of the dive team in Australia
172            Dim decTeamCost As Decimal
173            Dim decFinalCost As Decimal
174            Dim decAustraliaDive1 As Decimal = 359D
175            Dim decAustraliaDive2 As Decimal = 200D
176            Dim decAustraliaDive3 As Decimal = 125D
177
178            Select Case intDive
179                Case 0
180                    decTeamCost = decAustraliaDive1
181                    intTime = _intEighHour
182                Case 1
183                    decTeamCost = decAustraliaDive2
184                    intTime = _intSixHour
185                Case 2
186                    decTeamCost = decAustraliaDive3
187                    intTime = _intFourHour
188            End Select
189            decFinalCost = decTeamCost * intTeam
190            Return decFinalCost
191        End Function
192        Private Function BelizeDiveCost(ByVal intDive As Integer, ByVal intTeam As
             Integer, ByRef intTime As Integer) As Decimal
193            'This Function calculates the cost of the dive team in Belize
194            Dim decTeamCost As Decimal
195            Dim decFinalCost As Decimal
196            Dim decBelizeDive4 As Decimal = 200D
197            Dim decBelizeDive5 As Decimal = 150D
```

```vb
198
199            Select Case intDive
200                Case 0
201                    decTeamCost = decBelizeDive4
202                    intTime = _intEighHour
203                Case 1
204                    decTeamCost = decBelizeDive5
205                    intTime = _intSixHour
206            End Select
207
208            decFinalCost = decTeamCost * intTeam
209            Return decFinalCost
210
211        End Function
212        Private Function FijiDiveCost(ByVal intDive As Integer, ByVal intTeam As      ↵
             Integer, ByRef intTime As Integer) As Decimal
213            'This function calculates the cost of the dive team in Fiji
214
215            Dim decTeamCost As Decimal
216            Dim decFinalCost As Decimal
217            Dim decFijiDive2 As Decimal = 200D
218            Dim decFijiDive3 As Decimal = 225D
219            Dim decFijiDive6 As Decimal = 200D
220
221            Select Case intDive
222                Case 0
223                    decTeamCost = decFijiDive2
224                    intTime = _intEighHour
225                Case 1
226                    decTeamCost = decFijiDive3
227                    intTime = _intSixHour
228                Case 2
229                    decTeamCost = decFijiDive6
230                    intTime = _intFourHour
231            End Select
232
233            decFinalCost = decTeamCost * intTeam
234            Return decFinalCost
235
236        End Function
237        Private Sub frmScuba_Load(sender As Object, e As EventArgs) Handles          ↵
             MyBase.Load
238            Threading.Thread.Sleep(5000)
239        End Sub
240
241        Private Sub btnClear_Click(sender As Object, e As EventArgs) Handles         ↵
             btnClear.Click
242            'This event handler clears the form and resets the form for reuse when   ↵
                the user clicks the clear button
243
244            cboLocation.Text = "Select Location"
245            txtTeam.Clear()
```

```
246            lstDive.Items.Clear()
247            lblScubaDive.Text = ""
248            lblCost.Text = ""
249            lblLenght.Text = ""
250            lblTeam.Visible = False
251            txtTeam.Visible = False
252            lblSelect.Visible = False
253            lstDive.Visible = False
254            btnDiveCost.Visible = False
255            btnClear.Visible = False
256            lblScubaDive.Visible = False
257            lblCost.Visible = False
258            lblLenght.Visible = False
259        End Sub
260    End Class
261
```