**VB CODE:**

Public Class frmGrade

'Name: Zach Smith

'Start: 21 Febuary 2020

'Last Updated: 28 Febuary 2020

'Description: This program stores and add the number sailors in the four differnt grades(A, B, C, D).

Private Sub frmGrade\_Load(sender As Object, e As EventArgs) Handles MyBase.Load

lblA.Text = 0

lblB.Text = 0

lblC.Text = 0

lblD.Text = 0

'Resets all grade labes to 0

End Sub

Private Sub btnAdd\_Click(sender As Object, e As EventArgs) Handles btnAdd.Click

If Not IsNumeric(txtSailors.Text) Then

MessageBox.Show("Only Enter Positive Numbers", "Sailor Grade", MessageBoxButtons.OK, MessageBoxIcon.Exclamation)

'Reads if text box is numeric or not

Else

If Val(txtSailors.Text) > 999 Or Val(txtSailors.Text) < 0 Then

MessageBox.Show("Only Enter Positive Numbers", "Sailor Grade", MessageBoxButtons.OK, MessageBoxIcon.Exclamation)

'Reads if text box is with in the range

Else

If txtSailors.Text = " " Then

MessageBox.Show("Only Enter Positive Numbers", "Sailor Grade", MessageBoxButtons.OK, MessageBoxIcon.Exclamation)

'Reads if nothing has been inputed into the text box

Else

If cmbGrade.Text = "" Then

MessageBox.Show("Please select Grade", "Sailor Grade", MessageBoxButtons.OK, MessageBoxIcon.Exclamation)

'read if a grade has been selected in the combo box

Else

Select Case cmbGrade.Text

Case "A"

lblA.Text = Val(lblA.Text) + 1

Case "B"

lblB.Text = Val(lblB.Text) + 1

Case "C"

lblC.Text = Val(lblC.Text) + 1

Case "D"

lblD.Text = Val(lblD.Text) + 1

'Reads what has been selcted in the combo box and adds 1 to the corresponding grade

End Select

If Val(lblA.Text) + Val(lblB.Text) + Val(lblC.Text) + Val(lblD.Text) = Val(txtSailors.Text) Then

btnAdd.Enabled = False

MessageBox.Show("All sailors added", "Sailor Grade", MessageBoxButtons.OK, MessageBoxIcon.Exclamation)

'Read the total of the 4 grades and if the total equals number inputed in text box disable the add button

End If

End If

End If

End If

End If

End Sub

Private Sub btnReset\_Click(sender As Object, e As EventArgs) Handles btnReset.Click

lblA.Text = 0

lblB.Text = 0

lblC.Text = 0

lblD.Text = 0

btnAdd.Enabled = True

'5resest all grade lables to 0 and enables add button

End Sub

End Class

**TEST TABLE:**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Type of Test** | **Test Data** | **Expected Results** | **Actual Results** | **Note/Further Explanation** |
| **Type Test** | txtSailors – ‘a’ | Display error message |  |  |
| **Range check boundary** | txtSailors – ‘999’ | Function normally |  |  |
| **Range check outside of boundary** | txtSailors – ‘1000’ | Display error message |  |  |
| **Blank - txtSailors** | txtSailors - ‘ ’ | Display error message |  |  |
| **Blank - cmbGrade** | cmbGrade – ‘’ | Display error message |  |  |
| **Functionally test** | txtSailors – ‘5’ | lblA – ‘1’  blB – ‘1’  blC – ‘2’  blD – ‘1’ |  |  |