

James DuBois

Video Demo:

<https://www.youtube.com/watch?v=coiUBPeMFOk&feature=youtu.be>

```
Imports System.IO
```

```
Module StudentTestScoresModule
```

```
    Const intMAX_SUBSCRIPT_STUDENT As Integer = 6  
    Const intMAX_SUBSCRIPT_STUDENT_SCORES As Integer = 5
```

```
    'create structure
```

```
    Public Structure StudentData
```

```
        Dim strName As String
```

```
        Dim dblTestScoresArray() As Double
```

```
        Dim dblAverage As Double
```

```
    End Structure
```

```
Dim dblTotalStd1 As Double
```

```
Dim dblTotalStd2 As Double
```

```
Dim dblTotalStd3 As Double
```

```
Dim dblTotalStd4 As Double
```

```
Dim dblTotalStd5 As Double
```

```
Dim dblTotalStd6 As Double
```

```
Dim dblScore As Double
```

```
Dim StudentsArray(intMAX_SUBSCRIPT_STUDENT) As StudentData
```

```
Sub StudentNameDataInput()
```

```
    StudentsArray(0).strName = Form1.txtName1.Text
```

```
    StudentsArray(1).strName = Form1.txtName2.Text
```

```
    StudentsArray(2).strName = Form1.txtName3.Text
```

```
    StudentsArray(3).strName = Form1.txtName4.Text
```

```
    StudentsArray(4).strName = Form1.txtName5.Text
```

```
    StudentsArray(5).strName = Form1.txtName6.Text
```

```
End Sub
```

```
Sub StudentScoreDataInput()
```

```
    For intIndex = 0 To intMAX_SUBSCRIPT_STUDENT
```

```
        ReDim StudentsArray(intIndex).dblTestScoresArray(4)
```

```
    Next
```

```
    'test scores for first student
```

```
    If Form1.txtS11.Text < 0 Or Form1.txtS11.Text > 100 Then
```

```
        MessageBox.Show("Please enter positive integers only- Program Closing")
```

```
        Form1.Close()
```

```
        Throw New ArgumentException("Exception Occured")
```

```
    End If
```

```
    StudentsArray(0).dblTestScoresArray(0) = CDb1(Form1.txtS11.Text)
```

```
    StudentsArray(1).dblTestScoresArray(1) = CDb1(Form1.txtS12.Text)
```

```
    StudentsArray(2).dblTestScoresArray(2) = CDb1(Form1.txtS13.Text)
```

```
    StudentsArray(3).dblTestScoresArray(3) = CDb1(Form1.txtS14.Text)
```

```
    StudentsArray(4).dblTestScoresArray(4) = CDb1(Form1.txtS15.Text)
```

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```
For Each i As StudentData In StudentsArray
For Each S as Double in i.dblTestScoresArray
    dblTotalStd1 += s
Next
Next
Dim dblAverage As Double = dblTotalStd1/intMAX_SUBSCRIPT_STUDENT_SCORES
Form1.lblAvg1.Text = (dblAverage.ToString)
End Sub

Sub StudentScoreDataInput2()
For intIndex = 0 To intMAX_SUBSCRIPT_STUDENT
    ReDim StudentsArray(intIndex).dblTestScoresArray(4)
Next

    If Form1.txtS21.Text < 0 Or Form1.txtS21.Text > 100 Then
        MessageBox.Show("Please enter positive integers only- Program Closing")
        Form1.Close()
    End If
StudentsArray(0).dblTestScoresArray(0) = CDb1(Form1.txtS21.Text)
StudentsArray(1).dblTestScoresArray(1) = CDb1(Form1.txtS22.Text)
StudentsArray(2).dblTestScoresArray(2) = CDb1(Form1.txtS23.Text)
StudentsArray(3).dblTestScoresArray(3) = CDb1(Form1.txtS24.Text)
StudentsArray(4).dblTestScoresArray(4) = CDb1(Form1.txtS25.Text)

For Each i As StudentData In StudentsArray
For Each S as Double in i.dblTestScoresArray
    dblTotalStd2 += s
Next
Next
Dim dblAverage2 As Double = dblTotalStd2/intMAX_SUBSCRIPT_STUDENT_SCORES
Form1.lblAvg2.Text = (dblAverage2.ToString)
End Sub

Sub StudentScoreDataInput3()
For intIndex = 0 To intMAX_SUBSCRIPT_STUDENT
    ReDim StudentsArray(intIndex).dblTestScoresArray(4)
Next

    If Form1.txtS31.Text < 0 Or Form1.txtS31.Text > 100 Then
        MessageBox.Show("Please enter positive integers only- Program Closing")
        Form1.Close()
    End If
StudentsArray(0).dblTestScoresArray(0) = CDb1(Form1.txtS31.Text)
StudentsArray(1).dblTestScoresArray(1) = CDb1(Form1.txtS32.Text)
StudentsArray(2).dblTestScoresArray(2) = CDb1(Form1.txtS33.Text)
StudentsArray(3).dblTestScoresArray(3) = CDb1(Form1.txtS34.Text)
StudentsArray(4).dblTestScoresArray(4) = CDb1(Form1.txtS35.Text)

For Each i As StudentData In StudentsArray
For Each S as Double in i.dblTestScoresArray
    dblTotalStd3 += s
Next
Next
Dim dblAverage3 As Double = dblTotalStd3/intMAX_SUBSCRIPT_STUDENT_SCORES
Form1.lblAvg3.Text = (dblAverage3.ToString)
End Sub

Sub StudentScoreDataInput4()
```

```
For intIndex = 0 To intMAX_SUBSCRIPT_STUDENT
    ReDim StudentsArray(intIndex).dblTestScoresArray(4)
Next
    If Form1.txtS41.Text < 0 Or Form1.txtS41.Text > 100 Then
        MessageBox.Show("Please enter positive integers only- Program Closing")
        Form1.Close()
    End If
    StudentsArray(0).dblTestScoresArray(0) = CDb1(Form1.txtS41.Text)
    StudentsArray(1).dblTestScoresArray(1) = CDb1(Form1.txtS42.Text)
    StudentsArray(2).dblTestScoresArray(2) = CDb1(Form1.txtS43.Text)
    StudentsArray(3).dblTestScoresArray(3) = CDb1(Form1.txtS44.Text)
    StudentsArray(4).dblTestScoresArray(4) = CDb1(Form1.txtS45.Text)

    For Each i As StudentData In StudentsArray
        For Each S as Double in i.dblTestScoresArray
            dblTotalStd4 += s
        Next
    Next
Next
Dim dblAverage4 As Double = dblTotalStd4/intMAX_SUBSCRIPT_STUDENT_SCORES
Form1.lblAvg4.Text = (dblAverage4.ToString)
End Sub

Sub StudentScoreDataInput5()
    For intIndex = 0 To intMAX_SUBSCRIPT_STUDENT
        ReDim StudentsArray(intIndex).dblTestScoresArray(4)
    Next
        If Form1.txtS51.Text < 0 Or Form1.txtS51.Text > 100 Then
            MessageBox.Show("Please enter positive integers only- Program Closing")
            Form1.Close()
        End If
        StudentsArray(0).dblTestScoresArray(0) = CDb1(Form1.txtS51.Text)
        StudentsArray(1).dblTestScoresArray(1) = CDb1(Form1.txtS52.Text)
        StudentsArray(2).dblTestScoresArray(2) = CDb1(Form1.txtS53.Text)
        StudentsArray(3).dblTestScoresArray(3) = CDb1(Form1.txtS54.Text)
        StudentsArray(4).dblTestScoresArray(4) = CDb1(Form1.txtS55.Text)

        For Each i As StudentData In StudentsArray
            For Each S as Double in i.dblTestScoresArray
                dblTotalStd5 += s
            Next
        Next
    Next
Dim dblAverage5 As Double = dblTotalStd5/intMAX_SUBSCRIPT_STUDENT_SCORES
Form1.lblAvg5.Text = (dblAverage5.ToString)
End Sub

Sub StudentScoreDataInput6()
    For intIndex = 0 To intMAX_SUBSCRIPT_STUDENT
        ReDim StudentsArray(intIndex).dblTestScoresArray(4)
    Next
        If Form1.txtS61.Text < 0 Or Form1.txtS61.Text > 100 Then
            MessageBox.Show("Please enter positive integers only- Program Closing")
            Form1.Close()
        End If
        StudentsArray(0).dblTestScoresArray(0) = CDb1(Form1.txtS61.Text)
        StudentsArray(1).dblTestScoresArray(1) = CDb1(Form1.txtS62.Text)
        StudentsArray(2).dblTestScoresArray(2) = CDb1(Form1.txtS63.Text)
        StudentsArray(3).dblTestScoresArray(3) = CDb1(Form1.txtS64.Text)
```

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```
StudentsArray(4).dblTestScoresArray(4) = CDb1(Form1.txtS65.Text)

For Each i As StudentData In StudentsArray
For Each S as Double in i.dblTestScoresArray
    dblTotalStd6 += s
Next
Next
Dim dblAverage6 As Double = dblTotalStd6/intMAX_SUBSCRIPT_STUDENT_SCORES
Form1.lblAvg6.Text = (dblAverage6.ToString)
End Sub

Sub CalculateAverage()
End Sub

End Module

Public Class Form1

Private Sub btnCalculate_Click(sender As Object, e As EventArgs) Handles
btnCalculateAverage.Click
    StudentScoreDataInput()
    StudentScoreDataInput2()
    StudentScoreDataInput3()
    StudentScoreDataInput4()
    StudentScoreDataInput5()
    StudentScoreDataInput6()
End Sub

Private Sub Form1_Load(sender As Object, e As EventArgs) Handles MyBase.Load

End Sub

Private Sub SaveData_Click(sender As Object, e As EventArgs) Handles SaveData.Click
    Dim strFile As String = "Testscores.txt"
Dim fileExists As Boolean = File.Exists(strFile)
Using sw As New StreamWriter(File.Open(strFile, FileMode.OpenOrCreate))
    sw.WriteLine(Me.txtName1.Text)
    sw.WriteLine(Me.txtS11.Text)
    sw.WriteLine(Me.txtS12.Text)
    sw.WriteLine(Me.txtS13.Text)
    sw.WriteLine(Me.txtS14.Text)
    sw.WriteLine(Me.txtS15.Text)
    sw.WriteLine(Me.lblAvg1.Text)

    sw.WriteLine(Me.txtName2.Text)
    sw.WriteLine(Me.txtS21.Text)
    sw.WriteLine(Me.txtS22.Text)
    sw.WriteLine(Me.txtS23.Text)
    sw.WriteLine(Me.txtS24.Text)
    sw.WriteLine(Me.txtS25.Text)
    sw.WriteLine(Me.lblAvg2.Text)

    sw.WriteLine(Me.txtName3.Text)
    sw.WriteLine(Me.txtS31.Text)
    sw.WriteLine(Me.txtS32.Text)
    sw.WriteLine(Me.txtS33.Text)
```

```
sw.WriteLine(Me.txtS34.Text)
sw.WriteLine(Me.txtS35.Text)
sw.WriteLine(Me.lblAvg3.Text)

sw.WriteLine(Me.txtName4.Text)
sw.WriteLine(Me.txtS41.Text)
sw.WriteLine(Me.txtS42.Text)
sw.WriteLine(Me.txtS43.Text)
sw.WriteLine(Me.txtS44.Text)
sw.WriteLine(Me.txtS45.Text)
sw.WriteLine(Me.lblAvg4.Text)

sw.WriteLine(Me.txtName5.Text)
sw.WriteLine(Me.txtS51.Text)
sw.WriteLine(Me.txtS52.Text)
sw.WriteLine(Me.txtS53.Text)
sw.WriteLine(Me.txtS54.Text)
sw.WriteLine(Me.txtS55.Text)
sw.WriteLine(Me.lblAvg5.Text)

sw.WriteLine(Me.txtName6.Text)
sw.WriteLine(Me.txtS61.Text)
sw.WriteLine(Me.txtS62.Text)
sw.WriteLine(Me.txtS63.Text)
sw.WriteLine(Me.txtS64.Text)
sw.WriteLine(Me.txtS65.Text)
sw.WriteLine(Me.lblAvg6.Text)

MessageBox.Show("All Data is Written")

End Using

End Sub

Private Sub btnLoad_Click(sender As Object, e As EventArgs) Handles btnLoad.Click
    Dim strFile As String = "Testscores.txt"
    Dim fileExists As Boolean = File.Exists(strFile)
Using sw As New StreamWriter(File.Open(strFile, FileMode.Open))
    txtName1.Text = sw.ReadLine()
    txtS11.Text = sw.ReadLine()
    txtS12.Text = sw.ReadLine()
    txtS13.Text = sw.ReadLine()
    txtS14.Text = sw.ReadLine()
    txtS15.Text = sw.ReadLine()
    lblAvg1.Text = sw.ReadLine()

    txtName2.Text = sw.ReadLine()
    txtS21.Text = sw.ReadLine()
    txtS22.Text = sw.ReadLine()
    txtS23.Text = sw.ReadLine()
    txtS24.Text = sw.ReadLine()
    txtS25.Text = sw.ReadLine()
    lblAvg2.Text = sw.ReadLine()

    txtName3.Text = sw.ReadLine()
    txtS31.Text = sw.ReadLine()
    txtS32.Text = sw.ReadLine()
    txtS33.Text = sw.ReadLine()

```

```
txtS34.Text = sw.ReadLine()  
txtS35.Text = sw.ReadLine()  
lblAvg3.Text = sw.ReadLine()
```

```
txtName4.Text = sw.ReadLine()  
txtS41.Text = sw.ReadLine()  
txtS42.Text = sw.ReadLine()  
txtS43.Text = sw.ReadLine()  
txtS44.Text = sw.ReadLine()  
txtS45.Text = sw.ReadLine()  
lblAvg4.Text = sw.ReadLine()
```

```
txtName5.Text = sw.ReadLine()  
txtS51.Text = sw.ReadLine()  
txtS52.Text = sw.ReadLine()  
txtS53.Text = sw.ReadLine()  
txtS54.Text = sw.ReadLine()  
txtS55.Text = sw.ReadLine()  
lblAvg5.Text = sw.ReadLine()
```

```
txtName6.Text = sw.ReadLine()  
txtS61.Text = sw.ReadLine()  
txtS62.Text = sw.ReadLine()  
txtS63.Text = sw.ReadLine()  
txtS64.Text = sw.ReadLine()  
txtS65.Text = sw.ReadLine()  
lblAvg6.Text = sw.ReadLine()
```

End Using

End Sub
End Class