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'Ch 5 Demo 2
'using two-dimensional arrays
'
Name -
Period -

Public Class Form1
    Inherits System.Windows.Forms.Form

    Windows Form Designer generated code

    'bowling game scores of 5 bowlers (3 games for each bowler)
    Dim mintScores(,) As Integer = {{100, 200, 300}, _
                                    {100, 100, 100}, _
                                    {200, 200, 200}, _
                                    {299, 300, 298}, _
                                    {150, 150, 150}}

    Private Sub btnSum_Click(ByVal sender As System.Object, ByVal e As System.EventArgs)
        Handles btnSum.Click
            ' computes the sum of the elements of a two-dimensional array

            Dim intRow As Integer = 0          ' row of array
            Dim intCol As Integer = 0         ' column of array
            Dim intSum As Integer = 0         ' sum of elements in array

            For intRow = 0 To 4
                For intCol = 0 To 2
                    intSum = intSum + mintScores(intRow, intCol)
                Next
            Next

            lblSum.Text = intSum.ToString()
        End Sub

    Private Sub btnMax_Click(ByVal sender As System.Object, ByVal e As System.EventArgs)
        Handles btnMax.Click
            ' uses linear search to find the maximum element of a two-dimensional array

            Dim intRow As Integer = 0          ' row of array
            Dim intCol As Integer = 0         ' column of array
            Dim intMax As Integer = 0         ' maximum element of array

            For intRow = 0 To 4
                For intCol = 0 To 2
                    If (mintScores(intRow, intCol) > intMax) Then
                        intMax = mintScores(intRow, intCol)
                    End If
                Next
            Next

            lblMax.Text = intMax.ToString()
        End Sub

    Private Sub btnBowlerAverages_Click(ByVal sender As System.Object, ByVal e As System.
        EventArgs) Handles btnBowlerAverages.Click
            ' computes bowling averages of each bowler

            Dim intRow As Integer = 0          ' row of array
            Dim intCol As Integer = 0         ' column of array
            Dim intSum As Integer = 0         ' sum of bowling scores
            Dim dblAverages(4) As Double     ' averages of the bowlers
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For intRow = 0 To 4
    intSum = 0

    For intCol = 0 To 2          ' finding sum of current bowler's games
        intSum = intSum + mintScores(intRow, intCol)
    Next

    dblAverages(intRow) = intSum / 3          ' computing current bowler's average
Next

lblBowlerAverages.Text = dblAverages(0).ToString() + " " + _
    dblAverages(1).ToString() + " " + dblAverages(2).ToString() + " " + _
    + dblAverages(3).ToString() + " " + dblAverages(4).ToString()
End Sub

End Class
```