COMPUTATIONAL METHODS

Visual Basic Programming – Demonstration Program 4

```vb
' Conditional - Demonstration of some conditional statements
Public Class Form1
    '
    ' test if a number is prime
    Function IsPrime(ByVal num As Integer, ByVal testfactor As Integer) As Boolean
        If (testfactor >= num) Then
            Return True      ' tried all numbers up to num
        ElseIf (num Mod testfactor) = 0 Then
            Return False     ' found a divisor
        Else
            Return IsPrime(num, testfactor + 1) ' try the next number
        End If
    End Function
    '
    ' respond to Analyze button
    Private Sub Button1_Click(ByVal sender As System.Object, ByVal e As System.EventArgs) Handles Button1.Click
        Dim val As Integer
        ' only analyse a genuine number
        If (Integer.TryParse(TextBox1.Text, val)) Then
            ' report sign
            If (val < 0) Then
                Label1.Text = "Sign: Negative"
            ElseIf (val > 0) Then
                Label1.Text = "Sign: Positive"
            Else
                Label1.Text = "Sign: Zero"
            End If
            ' report parity
            If ((val Mod 2) = 0) Then
                Label2.Text = "Even: Yes"
            Else
                Label2.Text = "Even: No"
            End If
            ' report primality
            If (val > 1) And IsPrime(val, 2) Then
                Label3.Text = "Prime: Yes"
            Else
                Label3.Text = "Prime: No"
            End If
        Else
            MsgBox("Please enter a number")
        End If
    End Sub
End Class
```


Form1

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Sign: Positive
Even: No
Prime: Yes