Practical No 13 & 14

VIII. Resources required (Additional)

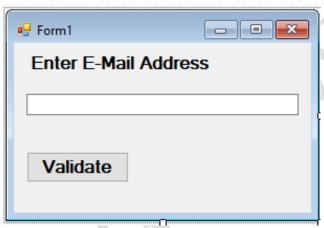
→ If any web resources required.

X. Resources used (Additional)

- → https://www.tutorialspoint.com/vb.net/vb.net_regular_expressions.htm
- → https://docs.microsoft.com/en-us/dotnet/standard/base-types/regular-expressions
- → https://docs.microsoft.com/en-us/dotnet/api/system.windows.forms.errorprovider

XI. Program Code

1. Write a program using Error Provider and Regular Expression.



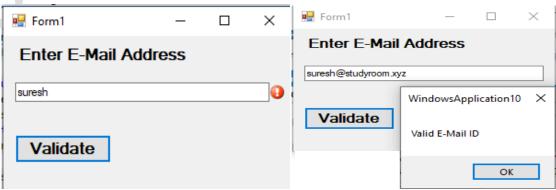
Imports System.Text.RegularExpressions
Public Class Form1

```
Private Sub Button1_Click(sender As Object, e As EventArgs) Handles Button1.Click

Dim regex As Regex = New Regex("^([\w-\.]+)@((\[[0-9]{1,3}\.[0-9]{1,3}\.[0-9]{1,3}\.[0-9]{1,3}\.[0-9]{1,3}\.[0-9]{1,3}\.[0-9]{1,3}\.[0-9]{1,3}\.[0-9]{1,3}\.[0-9]{1,3}\.[0-9]{1,3}\.[0-9]{1,3}\.[0-9]{1,3}\.[0-9]{1,3}\.[0-9]{1,3}\.[0-9]{1,3}\.[0-9]{1,3}\.[0-9]{1,3}\.[0-9]{1,3}\.[0-9]{1,3}\.[0-9]{1,3}\.[0-9]{1,3}\.[0-9]{1,3}\.[0-9]{1,3}\.[0-9]{1,3}\.[0-9]{1,3}\.[0-9]{1,3}\.[0-9]{1,3}\.[0-9]{1,3}\.[0-9]{1,3}\.[0-9]{1,3}\.[0-9]{1,3}\.[0-9]{1,3}\.[0-9]{1,3}\.[0-9]{1,3}\.[0-9]{1,3}\.[0-9]{1,3}\.[0-9]{1,3}\.[0-9]{1,3}\.[0-9]{1,3}\.[0-9]{1,3}\.[0-9]{1,3}\.[0-9]{1,3}\.[0-9]{1,3}\.[0-9]{1,3}\.[0-9]{1,3}\.[0-9]{1,3}\.[0-9]{1,3}\.[0-9]{1,3}\.[0-9]{1,3}\.[0-9]{1,3}\.[0-9]{1,3}\.[0-9]{1,3}\.[0-9]{1,3}\.[0-9]{1,3}\.[0-9]{1,3}\.[0-9]{1,3}\.[0-9]{1,3}\.[0-9]{1,3}\.[0-9]{1,3}\.[0-9]{1,3}\.[0-9]{1,3}\.[0-9]{1,3}\.[0-9]{1,3}\.[0-9]{1,3}\.[0-9]{1,3}\.[0-9]{1,3}\.[0-9]{1,3}\.[0-9]{1,3}\.[0-9]{1,3}\.[0-9]{1,3}\.[0-9]{1,3}\.[0-9]{1,3}\.[0-9]{1,3}\.[0-9]{1,3}\.[0-9]{1,3}\.[0-9]{1,3}\.[0-9]{1,3}\.[0-9]{1,3}\.[0-9]{1,3}\.[0-9]{1,3}\.[0-9]{1,3}\.[0-9]{1,3}\.[0-9]{1,3}\.[0-9]{1,3}\.[0-9]{1,3}\.[0-9]{1,3}\.[0-9]{1,3}\.[0-9]{1,3}\.[0-9]{1,3}\.[0-9]{1,3}\.[0-9]{1,3}\.[0-9]{1,3}\.[0-9]{1,3}\.[0-9]{1,3}\.[0-9]{1,3}\.[0-9]{1,3}\.[0-9]{1,3}\.[0-9]{1,3}\.[0-9]{1,3}\.[0-9]{1,3}\.[0-9]{1,3}\.[0-9]{1,3}\.[0-9]{1,3}\.[0-9]{1,3}\.[0-9]{1,3}\.[0-9]{1,3}\.[0-9]{1,3}\.[0-9]{1,3}\.[0-9]{1,3}\.[0-9]{1,3}\.[0-9]{1,3}\.[0-9]{1,3}\.[0-9]{1,3}\.[0-9]{1,3}\.[0-9]{1,3}\.[0-9]{1,3}\.[0-9]{1,3}\.[0-9]{1,3}\.[0-9]{1,3}\.[0-9]{1,3}\.[0-9]{1,3}\.[0-9]{1,3}\.[0-9]{1,3}\.[0-9]{1,3}\.[0-9]{1,3}\.[0-9]{1,3}\.[0-9]{1,3}\.[0-9]{1,3}\.[0-9]{1,3}\.[0-9]{1,3}\.[0-9]{1,3}\.[0-9]{1,3}\.[0-9]{1,3}\.[0-9]{1,3}\.[0-9]{1,3}\.[0-9]{1,3}\.[0-9]{1,3}\.[0-9]{1,3}\.[0-9]{1,3}\.[0-9]{1,3}\.[0-9]{1,3}\.[0-9]{1,3}\.[0-9]{1,3}\.[0-9]{1,3}\.[0-9]{1,3}\.[0-9]{1,3}\.[0-9]{1,3}\.[0-9]{1,3}\.[0-9]{1,3}\.[0-9]{1,3}\.[0-9]{1,3}\.[0-9]{1,3}\.[0-9]{1,3}\.[0-9]{1,3}\.[0-9]{1,3}\.[0-9]{1,3}\.[0-9]{1,3}\.[0-9]{1,3}\.[0-9]{1
```

End Class

XII. Results (Output of the Program)

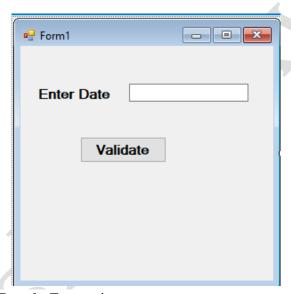


XIII. Practical related Questions

- 1. Enlist the different constructs for Regular Expressions.
- Constructs for Defining Regular Expressions

There are various categories of characters, operators, and constructs that lets you to define regular expressions. Click the following links to find these constructs.

- Character escapes
- Character classes
- Anchors
- Grouping constructs
- Quantifiers
- Backreference constructs
- Alternation constructs
- Substitutions
- Miscellaneous constructs
- 2. Write the program code to perform validation using ErrorProvider Control.



Imports System.Text.RegularExpressions

```
Public Class Form1
```

```
Private Sub Button1_Click(sender As Object, e As EventArgs) Handles Button1.Click

Dim regex As Regex = New Regex("(((0|1)[0-9]|2[0-9]|3[0-1])\/(0[1-9]|1[0-2])
\( \forall ((19|20)\d\d))\$")

Dim b As Boolean = regex.IsMatch(TextBox1.Text.Trim)

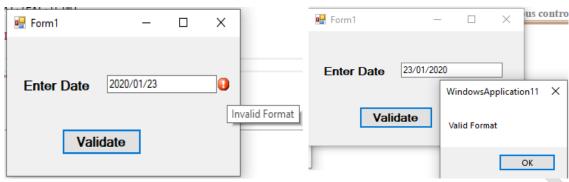
If Not b Then
ErrorProvider1.SetError(TextBox1, "Invalid Format")

Else

MsgBox("Valid Format")
ErrorProvider1.SetError(TextBox1, "")

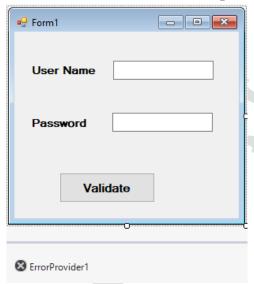
End If
End Sub
End Class
```

OUTPUT:



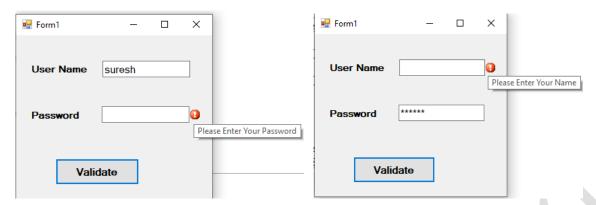
XIV. Exercise

1. Write a program using ErrorProvider for username and password authentication.

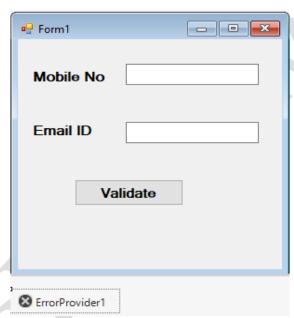


Public Class Form1

OUTPUT:



2. Write a program using ErrorProvider for control to validate Mobile Number and Email ID in GUI appnlication.



```
Imports System.Text.RegularExpressions
        Public Class Form1
                  Private Sub Button1_Click(sender As Object, e As EventArgs) Handles Button1.Click
                            Dim number As New Regex("\d{10}")
                            If number.IsMatch(TextBox1.Text) Then
                                     ErrorProvider1.SetError(TextBox1, "")
                                     MsgBox("Valid Phone Number")
                            Else
                                     ErrorProvider1.SetError(TextBox1, "Invalid Phone Number")
                            Dim regex As Regex = New Regex("([\w-\.]+)@(([\[0-9]\{1,3\}\.[\[0-9]\{1,3\}\.[\[0-9]\{1,3\}\.[\[0-9]\{1,3\}\.[\[0-9]\{1,3\}\.[\[0-9]\{1,3\}\.[\[0-9]\{1,3\}\.[\[0-9]\{1,3\}\.[\[0-9]\{1,3\}\.[\[0-9]\{1,3\}\.[\[0-9]\{1,3\}\.[\[0-9]\{1,3\}\.[\[0-9]\{1,3\}\.[\[0-9]\{1,3\}\.[\[0-9]\{1,3\}\.[\[0-9]\{1,3\}\.[\[0-9]\{1,3\}\.[\[0-9]\{1,3\}\.[\[0-9]\{1,3\}\.[\[0-9]\{1,3\}\.[\[0-9]\{1,3\}\.[\[0-9]\{1,3\}\.[\[0-9]\{1,3\}\.[\[0-9]\{1,3\}\.[\[0-9]\{1,3\}\.[\[0-9]\{1,3\}\.[\[0-9]\{1,3\}\.[\[0-9]\{1,3\}\.[\[0-9]\{1,3\}\.[\[0-9]\{1,3\}\.[\[0-9]\{1,3\}\.[\[0-9]\{1,3\}\.[\[0-9]\{1,3\}\.[\[0-9]\{1,3\}\.[\[0-9]\{1,3\}\.[\[0-9]\{1,3\}\.[\[0-9]\{1,3\}\.[\[0-9]\{1,3\}\.[\[0-9]\{1,3\}\.[\[0-9]\{1,3\}\.[\[0-9]\{1,3\}\.[\[0-9]\{1,3\}\.[\[0-9]\{1,3\}\.[\[0-9]\{1,3\}\.[\[0-9]\{1,3\}\.[\[0-9]\{1,3\}\.[\[0-9]\{1,3\}\.[\[0-9]\{1,3\}\.[\[0-9]\{1,3\}\.[\[0-9]\{1,3\}\.[\[0-9]\{1,3\}\.[\[0-9]\{1,3\}\.[\[0-9]\{1,3\}\.[\[0-9]\{1,3\}\.[\[0-9]\{1,3\}\.[\[0-9]\{1,3\}\.[\[0-9]\{1,3\}\.[\[0-9]\{1,3\}\.[\[0-9]\{1,3\}\.[\[0-9]\{1,3\}\.[\[0-9]\{1,3\}\.[\[0-9]\{1,3\}\.[\[0-9]\{1,3\}\.[\[0-9]\{1,3\}\.[\[0-9]\{1,3\}\.[\[0-9]\{1,3\}\.[\[0-9]\{1,3\}\.[\[0-9]\{1,3\}\.[\[0-9]\{1,3\}\.[\[0-9]\{1,3\}\.[\[0-9]\{1,3\}\.[\[0-9]\{1,3\}\.[\[0-9]\{1,3\}\.[\[0-9]\{1,3\}\.[\[0-9]\{1,3\}\.[\[0-9]\{1,3\}\.[\[0-9]\{1,3\}\.[\[0-9]\{1,3\}\.[\[0-9]\{1,3\}\.[\[0-9]\{1,3\}\.[\[0-9]\{1,3\}\.[\[0-9]\{1,3\}\.[\[0-9]\{1,3\}\.[\[0-9]\{1,3\}\.[\[0-9]\{1,3\}\.[\[0-9]\{1,3\}\.[\[0-9]\{1,3\}\.[\[0-9]\{1,3\}\.[\[0-9]\{1,3\}\.[\[0-9]\{1,3\}\.[\[0-9]\{1,3\}\.[\[0-9]\{1,3\}\.[\[0-9]\{1,3\}\.[\[0-9]\{1,3\}\.[\[0-9]\{1,3\}\.[\[0-9]\{1,3\}\.[\[0-9]\{1,3\}\.[\[0-9]\{1,3\}\.[\[0-9]\{1,3\}\.[\[0-9]\{1,3\}\.[\[0-9]\{1,3\}\.[\[0-9]\{1,3\}\.[\[0-9]\{1,3\}\.[\[0-9]\{1,3\}\.[\[0-9]\{1,3\}\.[\[0-9]\{1,3\}\.[\[0-9]\{1,3\}\.[\[0-9]\{1,3\}\.[\[0-9]\{1,3\}\.[\[0-9]\{1,3\}\.[\[0-9]\{1,3\}\.[\[0-9]\{1,3\}\.[\[0-9]\{1,3\}\.[\[0-9]\{1,3\}\.[\[0-9]\{1,3\}\.[\[0-9]\{1,3\}\.[\[0-9]\{1,3\}\.[\[0-9]\{1,3\}\.[\[0-9]\{1,3\}\.[\[0-9]\{1,3\}\.[\[0-9]\{1,3\}\.[\[0-9]\{1,3\}\.[\[0-9]\{1,3\}\.[\[0-9]\{1,3\}\.[\[0-9]\{1,3\}\.[\[0-9]\{1,3\}\.[\[0-9]\{1,3\}\.[\[0-9]\{1,3\}\.[\[0-9]\{1,3\}\.[\[0-9]\{1,3\}\.[\[0-9]\{1,3\}\.[\[0-9]\{1,3\}\.[\[0-9]\{1,3\}\.[\[0-9]\{1,3\}\.[\[0-9]\{1,3\}\.[\[0-9]\{1,3\}\.[\[0-9]\{1,3\}\.[\[0-9]\{1,3\}\.[\[0-9]\{1,3\}\.[\[0-9]\{1,3\}\.[\[0-9]\{1,3\}\.[\[0-9]\{1,3\}\.[\[0-9]\{1,3
9]{1,3}\.)|(([\w-]+\.)+))([a-zA-Z]{2,4}|[0-9]{1,3})(\]?)
                            Dim is Valid As Boolean = regex.IsMatch(TextBox2.Text.Trim)
                            If Not is Valid Then
                                     ErrorProvider1.SetError(TextBox2, "Invalid E-mail ID")
                            Else
                                     ErrorProvider1.SetError(TextBox2, "")
                                     MsgBox("Valid E-Mail ID")
                            End If
                  End Sub
        End Class
```

OUTPUT:

