

' Equaz2 - Risoluzione Equazione di 2° grado - prof. Zampini - 21/01/2011 - VB 2010

' \*\*\*\*\*

Imports System.Math

Public Class Form1

' MAIN PROGRAM \*\*\*\*\*

Dim a, b, c, Delta As Single

Private Sub btnRisolvi\_Click(ByVal sender As System.Object, ByVal e As System.EventArgs) Handles btnRisolvi.Click

Delta = CalcolaDelta(a, b, c) : lblDelta.Text = CStr(Delta)

If a <> 0 Then

Soluzioni(a, b, Delta)

Else

Equaz1(b, c)

End If

End Sub

' GESTIONE BUTTON \*\*\*\*\*

Private Sub Form1\_Load(ByVal sender As System.Object, ByVal e As System.EventArgs) Handles MyBase.Load

btnRisolvi.Enabled = False : btnReset.Enabled = False

End Sub

Private Sub btnEnd\_Click(ByVal sender As System.Object, ByVal e As System.EventArgs) Handles btnEnd.Click

End

End Sub

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

txtA.Text = "" : txtB.Text = "" : txtC.Text = "" : txtA.Focus()

lblX1.Text = "" : lblX2.Text = "" : lblDelta.Text = ""

End Sub

Private Sub txtA\_TextChanged(ByVal sender As System.Object, ByVal e As System.EventArgs) Handles txtA.TextChanged

a = Val(txtA.Text) : GestioneRisolviReset()

End Sub

Private Sub txtB\_TextChanged(ByVal sender As System.Object, ByVal e As System.EventArgs) Handles txtB.TextChanged

b = Val(txtB.Text) : GestioneRisolviReset()

End Sub

Private Sub txtC\_TextChanged(ByVal sender As System.Object, ByVal e As System.EventArgs) Handles txtC.TextChanged

c = Val(txtC.Text) : GestioneRisolviReset()

End Sub

```
' SOTTOPROGRAMMI *****
```

```
Function CalcolaDelta(ByVal ca As Single, ByVal cb As Single, ByVal cc As Single) As Single
```

```
    Dim D As Single  
    D = cb * cb - 4 * ca * cc  
    Return D
```

```
End Function
```

```
Sub Soluzioni(ByVal ca As Single, ByVal cb As Single, ByVal D As Single)
```

```
    Dim X1, X2 As Single  
    If D >= 0 Then  
        X1 = (-cb + Sqrt(D)) / (2 * ca) : X2 = (-cb - Sqrt(D)) / (2 * ca)  
        lblX1.Text = CStr(X1) : lblX2.Text = CStr(X2)
```

```
    Else  
        MsgBox("Nessuna soluzione reale", MsgBoxStyle.Information + MsgBoxStyle.OkOnly, "Equazione di 2° grado")
```

```
    End If
```

```
End Sub
```

```
Sub Equaz1(ByVal c1 As Single, ByVal c2 As Single)
```

```
    Dim x As Single  
    If c1 <> 0 Then  
        MsgBox("Equazione ridotta a 1° grado", MsgBoxStyle.Information + MsgBoxStyle.OkOnly, "Equazione di 2° grado")  
        x = -c2 / c1 : lblX1.Text = CStr(x)
```

```
    ElseIf c1 = 0 And c2 <> 0 Then  
        MsgBox("Equazione Impossibile", MsgBoxStyle.Information + MsgBoxStyle.OkOnly, "Equazione di 2° grado")
```

```
    Else  
        MsgBox("Equazione Indeterminata", MsgBoxStyle.Information + MsgBoxStyle.OkOnly, "Equazione di 2° grado")
```

```
    End If
```

```
End Sub
```

```
Sub GestioneRisolviReset()
```

```
    ' btnRisolvi si abilita se presenti tutti i dati di input
```

```
    If (txtA.Text = "" Or txtB.Text = "" Or txtC.Text = "") Then  
        btnRisolvi.Enabled = False
```

```
    Else  
        btnRisolvi.Enabled = True
```

```
    End If
```

```
    ' btnReset si abilita se presente almeno un dato di input
```

```
    If (txtA.Text <> "" Or txtB.Text <> "" Or txtC.Text <> "") Then  
        btnReset.Enabled = True
```

```
    Else  
        btnReset.Enabled = False
```

```
    End If
```

```
End Sub
```

```
End Class
```