

LAMPIRAN A
LISTING PROGRAM

Program Image Thresholding untuk segmentasi objek

```
Dim h(3, 3) As Single
```

```
Private Sub Command1_Click()
```

```
Dim n(256) As Double
```

```
Dim m As Long
```

```
For i = 1 To 256
```

```
    n(i) = 0
```

```
Next i
```

```
For i = 1 To Picture4.Width Step 15
```

```
    For j = 1 To Picture4.Height Step 15
```

```
        warna = Picture4.Point(i, j)
```

```
        r = warna And RGB(255, 0, 0)
```

```
        g = Int((warna And RGB(0, 255, 0)) / 256)
```

```
        b = Int(Int((warna And RGB(0, 0, 255)) / 256) / 256)
```

```
        x = Int((r + g + b) / 3)
```

```
        n(x + 1) = n(x + 1) + 1
```

```
        Picture4.PSet (i, j), RGB(x, x, x)
```

```
    Next j
```

```
Next i
```

```
ht2 = Picture3.Height
```

```
For i = 1 To 256
```

```
    xp = 15 * (i - 1) + 1
```

```
    Picture3.Line (xp, ht2 - n(i))-(xp, ht2), RGB(255, 0, 0)
```

```
Next i
```

```
For i = 1 To 256
```

```
    m = m + n(i)
```

```
Next i
```

```
Dim p(256) As Double
```

Dim ptot As Double

ptot = 0

n(1) = 1

For i = 1 To 256

p(i) = n(i) / m

ptot = ptot + p(i)

Next i

Dim k As Integer

k = 255

Dim w(256) As Double

Dim Y(256) As Double

Dim q(256) As Double

Dim ra(256) As Double

Dim qq(256) As Double

Dim mewT(256) As Double

Dim taob(256) As Double

For i = 1 To 256

w(i) = 0

q(i) = 0

ra(i) = 0

Next i

For j = 1 To k

For i = 1 To j

w(j) = w(j) + p(i)

Next i

Y(j) = 1 - w(j)

For i = 1 To j

q(j) = q(j) + ((i * p(i)) / w(j))

Next i

For i = j + 1 To 256

```

    ra(j) = ra(j) + ((i * p(i)) / Y(j))
Next i
mewT(j) = q(j) * w(j) + ra(j) * Y(j)
Next j

For i = 1 To k
    taob(i) = w(i) * Y(i) * (ra(i) - q(i)) ^ 2
Next i
Dim max As Double
Dim nilaik As Integer
max = taob(1)
nilaik = 0
For i = 2 To k
    If max <= taob(i) Then
        max = taob(i)
        nilaik = i
    End If
Next i

For i = 1 To Picture1.Width Step 15
    For j = 1 To Picture1.Height Step 15
        warna = Picture1.Point(i, j)
        r = warna And RGB(255, 0, 0)
        g = Int((warna And RGB(0, 255, 0)) / 256)
        b = Int(Int((warna And RGB(0, 0, 255)) / 256) / 256)
        x = Int((r + g + b) / 3)
        If x < nilaik Then x = 0 Else x = 255
        Picture2.PSet (i, j), RGB(x, x, x)
    Next j
Next i
Label1.Caption = nilaik
End Sub

```

```
Private Sub Command2_Click()
```

```
Unload Me
```

```
End Sub
```

```
Private Sub Command3_Click()
```

```
Dim x(600, 600) As Integer
```

```
n1 = 0
```

```
For i = 1 To Picture1.ScaleWidth Step 15
```

```
    n1 = n1 + 1
```

```
    n2 = 0
```

```
    For j = 1 To Picture1.ScaleHeight Step 15
```

```
        warna = Picture1.Point(i, j)
```

```
        r = warna And RGB(255, 0, 0)
```

```
        g = Int((warna And RGB(0, 255, 0)) / 256)
```

```
        b = Int(Int((warna And RGB(0, 0, 255)) / 256) / 256)
```

```
        n2 = n2 + 1
```

```
        wx = Int((r + g + b) / 3)
```

```
        x(n1, n2) = wx
```

```
        Picture4.PSet (i, j), RGB(wx, wx, wx)
```

```
    Next j
```

```
Next i
```

```
For i = 1 To n1
```

```
    For j = 1 To n2
```

```
        z = 0
```

```
        For u1 = -1 To 1
```

```
            For u2 = -1 To 1
```

```
                z = z + h(u1 + 2, u2 + 2) * x(i + u1, j + u2)
```

```
            Next u2
```

```
        Next u1
```

```
        Picture4.PSet ((i - 1) * 15 + 1, (j - 1) * 15 + 1), RGB(z, z, z)
```

```
Next j
Next i
End Sub
```

```
Private Sub Command4_Click()
For i = 1 To Picture1.ScaleWidth Step 15
  For j = 1 To Picture1.ScaleHeight Step 15
    warna = Picture1.Point(i, j)
    r = warna And RGB(255, 0, 0)
    g = Int((warna And RGB(0, 255, 0)) / 256)
    b = Int(Int((warna And RGB(0, 0, 255)) / 256) / 256)
    wx = Int((r + g + b) / 3)
    Picture4.PSet (i, j), RGB(wx, wx, wx)
  Next j
Next i
End Sub
```

```
Private Sub Form_Load()
For i = 1 To 3
  For j = 1 To 3
    h(i, j) = 1 / 9
  Next j
Next i
End Sub
```