LISTING PROGRAM

```
'declarations
'get pixel for looking at pixel values
Private Declare Function GetPixel Lib "gdi32" (ByVal hdc As Long, ByVal x As Long, ByVal y As Long) As Long
'set pixel for drawing pixels
Private Declare Function SetPixel Lib "gdi32" (ByVal hdc As Long, ByVal x As Long, ByVal y As Long, ByVal crColor As Long) As Long
Private Declare Function BitBlt Lib "gdi32" (ByVal hDestDC As Long, ByVal x As Long, ByVal y As Long, ByVal nWidth As Long, ByVal nHeight As Long, ByVal hSrcDC As Long, ByVal xSrc As Long, ByVal ySrc As Long, ByVal dwRop As Long) As Long

'byte of info
Private Type RGBcolor
  R As Byte 'amount of red
  G As Byte 'amount of green
  B As Byte 'amount of blue
End Type

Dim x, y, i As Byte
Dim NilaiR(0 To 200, 0 To 200) As Single
Dim NilaiG(0 To 200, 0 To 200) As Single
Dim NilaiB(0 To 200, 0 To 200) As Single
'these are initial values
Dim StartR(0 To 200, 0 To 200) As Single
Dim StartG(0 To 200, 0 To 200) As Single
Dim StartB(0 To 200, 0 To 200) As Single
Dim FinishR(0 To 200, 0 To 200) As Single
Dim FinishG(0 To 200, 0 To 200) As Single
```

```
Dim FinishB(0 To 200, 0 To 200) As Single
'these store the RGB of every pixel
Dim R(0 To 200, 0 To 200) As Single
Dim G(0 To 200, 0 To 200) As Single
Dim B(0 To 200, 0 To 200) As Single
Dim Warna As Long
Dim StartCol As RGBcolor
Dim EndCol As RGBcolor
Dim dR As Integer
Dim dG As Integer
Dim dB As Integer
Public Steps As Byte
```

```
Private Sub Command1_Click()
CommonDialog1.ShowOpen
Picture1.Picture = LoadPicture(CommonDialog1.FileName)
Picture3.Picture = Picture1.Picture
Picture4.Picture = Picture1.Picture
Picture5.Picture = Picture1.Picture
Picture6.Picture = Picture1.Picture
Picture7.Picture = Picture1.Picture
Picture8.Picture = Picture1.Picture
End Sub
```

```
Private Sub Command2_Click()
CommonDialog2.ShowOpen
Picture2.Picture = LoadPicture(CommonDialog2.FileName)
End Sub
```

```
Private Sub Command3_Click()  `→ PERGESERAN RATA-RATA
'jumlah banyaknya transisi
ProgressBar1.Value = 0
Steps = 50

'now loop through every pixel and find the difference between
'the start and end values, and then the step values
For x = 0 To 200
   For y = 0 To 200

      'nilai RGB pada gambar 1 (gambar awal)
      Warna = GetPixel(Picture1.hdc, x, y)
      StartCol.R = Warna And RGB(255, 0, 0)
      StartCol.G = Int((Warna And RGB(0, 255, 0)) / 256)
      StartCol.B = Int(Int((Warna And RGB(0, 0, 255)) / 256) / 256)

      'nilai RGB pada gambar 2 (gambar akhir)
      Warna = GetPixel(Picture2.hdc, x, y)
      EndCol.R = Warna And RGB(255, 0, 0)
      EndCol.G = Int((Warna And RGB(0, 255, 0)) / 256)
      EndCol.B = Int(Int((Warna And RGB(0, 0, 255)) / 256) / 256)

      'set initial RGB values
      R(x, y) = StartCol.R
      G(x, y) = StartCol.G
      B(x, y) = StartCol.B

       'menghitung selisih antara nilai merah di gambar awal dan gambar akhir
      If EndCol.R > StartCol.R Then
         dR = EndCol.R - StartCol.R
      Else
```

```
            dR = StartCol.R - EndCol.R
        End If

        'menghitung selisih nilai hijau gambar awal dan gambar akhir
        If EndCol.G > StartCol.G Then
            dG = EndCol.G - StartCol.G
        Else
            dG = StartCol.G - EndCol.G
        End If

        'menghitung selisih nilai biru gambar awal dan gambar akhir
        If EndCol.B > StartCol.B Then
            dB = EndCol.B - StartCol.B
        Else
            dB = StartCol.B - EndCol.B
        End If

        'membagi nilai hasil selisih dengan banyaknya step
        NilaiR(x, y) = dR / Steps
        NilaiG(x, y) = dG / Steps
        NilaiB(x, y) = dB / Steps
    Next
Next

'menampilkan hasil
For i = 1 To Steps
    'loop through every pixel
    For x = 0 To 200
    For y = 0 To 200
        'menjumlahkan niali RGB dengan hasil pembagian
        R(x, y) = R(x, y) + NilaiR(x, y)
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```
        G(x, y) = G(x, y) + NilaiG(x, y)
        B(x, y) = B(x, y) + NilaiB(x, y)
        'menampilkan hasil pada invisible picturebox
        SetPixel PB.hdc, x, y, RGB(R(x, y), G(x, y), B(x, y))
    Next
    Next
    ‘menampilkan dan menyimpan hasilnya
    BitBlt Picture3.hdc, 0, 0, 200, 200, PB.hdc, 0, 0, vbSrcCopy
    BitBlt Picture6.hdc, 0, 0, 200, 200, PB.hdc, 0, 0, vbSrcCopy
    sI = App.Path & "\PergeseranRata2-" & i & ".jpg"
    SavePicture Picture3.Image, sI
ProgressBar1.Value = ProgressBar1 + 2
Next
End Sub
```

```
Private Sub Command4_Click() '→ PERGESERAN LOGARITMIK
'jumlah banyaknya transisi
ProgressBar1.Value = 0
Steps = 50

'now loop through every pixel and find the difference between
'the start and end values, and then the step values
For x = 0 To 200
    For y = 0 To 200

        'nilai RGB pada gambar awal
        Warna = GetPixel(Picture1.hdc, x, y)
        StartCol.R = Warna And RGB(255, 0, 0)
        StartCol.G = Int((Warna And RGB(0, 255, 0)) / 256)
        StartCol.B = Int(Int((Warna And RGB(0, 0, 255)) / 256) / 256)
```

```
        'nilai RGB pada gambar akhir
        Warna = GetPixel(Picture2.hdc, x, y)
        EndCol.R = Warna And RGB(255, 0, 0)
        EndCol.G = Int((Warna And RGB(0, 255, 0)) / 256)
        EndCol.B = Int(Int((Warna And RGB(0, 0, 255)) / 256) / 256)

        'set initial RGB values
        StartR(x, y) = StartCol.R
        StartG(x, y) = StartCol.G
        StartB(x, y) = StartCol.B
        FinishR(x, y) = EndCol.R
        FinishG(x, y) = EndCol.G
        FinishB(x, y) = EndCol.B
    Next
Next

'menampilkan hasil
For i = 1 To Steps
   'loop through every pixel
   For x = 0 To 200
   For y = 0 To 200
      'menghitung nilai logaritma
        LogRGB = (Log(i) / Log(2.7))

        'menghitung nilai hasil logaritmik
        R(x, y) = (LogRGB * FinishR(x, y)) + ((1 - LogRGB) * StartR(x, y))
        G(x, y) = (LogRGB * FinishG(x, y)) + ((1 - LogRGB) * StartG(x, y))
        B(x, y) = (LogRGB * FinishB(x, y)) + ((1 - LogRGB) * StartB(x, y))
        'menampilkan hasil pada invisible picturebox
        SetPixel PB.hdc, x, y, RGB(R(x, y), G(x, y), B(x, y))
```

```
    Next
    Next
    ‘menampilkan dan menyimpan hasilnya
    BitBlt Picture4.hdc, 0, 0, 200, 200, PB.hdc, 0, 0, vbSrcCopy
    BitBlt Picture7.hdc, 0, 0, 200, 200, PB.hdc, 0, 0, vbSrcCopy
    sI = App.Path & "\PergeseranLogaritma-" & i & ".jpg"
    SavePicture Picture4.Image, sI
ProgressBar1.Value = ProgressBar1 + 2
Next
End Sub
```

```
Private Sub Command5_Click() '→ ALPHA BLENDING
'jumlah banyaknya transisi
ProgressBar1.Value = 0
Steps = 50

'menghitung nilai alpha
Alpha = 1 / Steps

'menginisialisasi current alpha untuk setiap proses
CurrAlpha = 0

For x = 0 To 200
    For y = 0 To 200

        'nilai RGB pada gambar awal
        Warna = GetPixel(Picture1.hdc, x, y)
        StartCol.R = Warna And RGB(255, 0, 0)
        StartCol.G = Int((Warna And RGB(0, 255, 0)) / 256)
        StartCol.B = Int(Int((Warna And RGB(0, 0, 255)) / 256) / 256)
```

```
        'nilai RGB pada gambar akhir
        Warna = GetPixel(Picture2.hdc, x, y)
        EndCol.R = Warna And RGB(255, 0, 0)
        EndCol.G = Int((Warna And RGB(0, 255, 0)) / 256)
        EndCol.B = Int(Int((Warna And RGB(0, 0, 255)) / 256) / 256)

        'set initial RGB values
        StartR(x, y) = StartCol.R
        StartG(x, y) = StartCol.G
        StartB(x, y) = StartCol.B
        FinishR(x, y) = EndCol.R
        FinishG(x, y) = EndCol.G
        FinishB(x, y) = EndCol.B
    Next
Next

'menampilkan hasil
For i = 1 To Steps

    For x = 0 To 200
    For y = 0 To 200

        'menghitung nilai RGB hasil
        'finalRGB = (Alpha)* FinalRGB + (1-Aplha)*StartRGB
        R(x, y) = (CurrAlpha * FinishR(x, y)) + ((1 - CurrAlpha) * StartR(x, y))
        G(x, y) = (CurrAlpha * FinishG(x, y)) + ((1 - CurrAlpha) * StartG(x, y))
        B(x, y) = (CurrAlpha * FinishB(x, y)) + ((1 - CurrAlpha) * StartB(x, y))
        'menampilkan hasil pada invisible picturebox
        SetPixel PB.hdc, x, y, RGB(R(x, y), G(x, y), B(x, y))
    Next
```

```
    Next
    'menampilkan dan menyimpan hasilnya
    BitBlt Picture5.hdc, 0, 0, 200, 200, PB.hdc, 0, 0, vbSrcCopy
    BitBlt Picture8.hdc, 0, 0, 200, 200, PB.hdc, 0, 0, vbSrcCopy
    sI = App.Path & "\AlphaBlending-" & i & ".jpg"
    SavePicture Picture5.Image, sI
ProgressBar1.Value = ProgressBar1 + 2
Next
End Sub
```

```
Private Sub Command6_Click()
MsgBox "Angki Dwi Saptani", , "0322095"
End
End Sub
```
