

LAMPIRAN

Lampiran Kode Sumber Fuzzy Logic Pada Horison Generik

1. Kelas Perakaran

```
Public Class ClassHimpunanPerakaran
    Public Function perakaran_sedikit(ByVal a As Double)
        Dim b As Double
        If a <= 40 And a >= 0 Then
            b = (40 - a) / 40
        Else
            b = 0
        End If
        Return b
    End Function
    Public Function perakaran_sedang(ByVal a As Double)
        Dim b As Double
        If a <= 50 And a >= 25 Then
            b = (a - 25) / 25
        ElseIf a <= 75 And a >= 50 Then
            b = (75 - a) / 25
        Else
            b = 0
        End If
        Return b
    End Function
    Public Function perakaran_banyak(ByVal a As Double)
        Dim b As Double
        If a <= 100 And a >= 60 Then
            b = (a - 60) / 40
        Else
            b = 0
        End If
        Return b
    End Function
End Class
```

2. Kelas Bahan Organik

```
Public Class ClassHimpunanBahanOrganik
    Public Function sangat_rendah(ByVal a As Double)
        Dim b As Double
```

```

If a <= 2.5 And a >= 0 Then
    b = (2.5 - a) / 2.5
Else
    b = 0
End If
Return b
End Function
Public Function rendah(ByVal a As Double)
    Dim b As Double
    If a <= 1.5 And a >= 0.5 Then
        b = (a - 0.5) / 1
    ElseIf a <= 2.5 And a >= 1.5 Then
        b = (2.5 - a) / 1
    Else
        b = 0
    End If
    Return b
End Function
Public Function sedang(ByVal a As Double)
    Dim b As Double
    If a <= 3 And a >= 1.5 Then
        b = (a - 1.5) / 1.5
    ElseIf a <= 4.5 And a >= 3 Then
        b = (4.5 - a) / 1.5
    Else
        b = 0
    End If
    Return b
End Function
Public Function tinggi(ByVal a As Double)
    Dim b As Double
    If a <= 4.5 And a >= 3.5 Then
        b = (a - 3.5) / 1
    ElseIf a <= 5.5 And a >= 3.5 Then
        b = (5.5 - a) / 2
    Else
        b = 0
    End If
    Return b
End Function
Public Function sangat_tinggi(ByVal a As Double)
    Dim b As Double
    If a <= 5.5 And a >= 4.5 Then

```

```

        b = (a - 4.5) / 1
    ElseIf a > 5 Then
        b = 1
    Else
        b = 0
    End If
    Return b
End Function
End Class

```

3. **Kelas Drainase**

```

Public Class ClassHimpDrainase
    Public Function sangatJelek(ByVal a As Double)
        Dim b As Double
        b = 1
        Return b
    End Function
    Public Function jelek(ByVal a As Double)
        Dim b As Double
        b = 1
        Return b
    End Function
    Public Function cukup(ByVal a As Double)
        Dim b As Double
        b = 1
        Return b
    End Function
    Public Function cukupBaik(ByVal a As Double)
        Dim b As Double
        b = 1
        Return b
    End Function
    Public Function baik(ByVal a As Double)
        Dim b As Double
        b = 1
        Return b
    End Function
    Public Function berlebihan(ByVal a As Double)
        Dim b As Double
        b = 1
        Return b
    End Function

```

```

Public Function sangatBerlebihan(ByVal a As Double)
    Dim b As Double
    b = 1
    Return b
End Function
End Class

```

4. Kelas Warna

```

Public Class ClassHimpWarna
    Public Function valueGelap(ByVal a As Double)
        Dim b As Double
        If a <= 4 And a >= 0 Then
            b = (4 - a) / 4
        Else
            b = 0
        End If
        Return b
    End Function

```

```

    Public Function valueSedang(ByVal a As Double)
        Dim b As Double
        If a <= 4.5 And a >= 2.5 Then
            b = (a - 2.5) / 1.5
        ElseIf a <= 6 And a >= 4.5 Then
            b = (6 - a) / 1.5
        Else
            b = 0
        End If
        Return b
    End Function

```

```

    Public Function valueTerang(ByVal a As Double)
        Dim b As Double
        If a >= 5 Then
            b = 1
        Else
            b = 0
        End If
        Return b
    End Function

```

```

.....

```

```

    Public Function kromaTdkMurni(ByVal a As Double)

```

```

Dim b As Double
If a <= 3.5 And a >= 0 Then
    b = (3.5 - a) / 3.5
Else
    b = 0
End If
Return b
End Function

```

```

Public Function kromaSedang(ByVal a As Double)
    Dim b As Double
    If a <= 3 And a >= 1.5 Then
        b = (a - 1.5) / 1.5
    ElseIf a <= 4.5 And a >= 3 Then
        b = (6 - a) / 1.5
    Else
        b = 0
    End If
    Return b
End Function

```

```

Public Function kromaMurni(ByVal a As Double)
    Dim b As Double
    If a <= 6 And a >= 3.5 Then
        b = (a - 3.5) / 2.5
    ElseIf a <= 8.5 And a >= 6 Then
        b = (8.5 - a) / 2.5
    Else
        b = 0
    End If
    Return b
End Function
End Class

```

5. Kelas Struktur

```

Public Class ClassUkuranStruktur
    Public Function granular_remah_plati_sangatHalus(ByVal a As Double)
        Dim b As Double
        If a <= 1.5 And a >= 0 Then
            b = (1.5 - a) / 1.5
        Else
            b = 0
        End If
    End Function
End Class

```

```

Return b
End Function
Public Function granular_remah_plati_Halus(ByVal a As Double)
    Dim b As Double
    If a <= 1.5 And a >= 0.5 Then
        b = (a - 0.5) / 1
    ElseIf a <= 2.5 And a >= 1.5 Then
        b = (2.5 - a) / 1
    Else
        b = 0
    End If
    Return b
End Function
Public Function granular_remah_plati_sedang(ByVal a As Double)
    Dim b As Double
    If a <= 3.5 And a >= 1.5 Then
        b = (a - 1.5) / 2
    ElseIf a <= 5.5 And a >= 3.5 Then
        b = (5.5 - a) / 2
    Else
        b = 0
    End If
    Return b
End Function
Public Function granular_remah_plati_kasar(ByVal a As Double)
    Dim b As Double
    If a <= 6.5 And a >= 4.5 Then
        b = (a - 4.5) / 2
    ElseIf a <= 10.5 And a >= 6.5 Then
        b = (10.5 - a) / 4
    Else
        b = 0
    End If
    Return b
End Function
Public Function granular_remah_plati_sangatKasar(ByVal a As Double)
    Dim b As Double
    If a <= 10 And a >= 9.5 Then
        b = (a - 9.5) / 0.5
    ElseIf a >= 10 Then
        b = 1
    Else
        b = 0

```

```

End If
Return b
End Function
.....

```

```

Public Function gumpal_bulat_sudut_sangatHalus(ByVal a As Double)
Dim b As Double
If a <= 7.5 And a >= 0 Then
    b = (7.5 - a) / 7.5
Else
    b = 0
End If
Return b
End Function

```

```

Public Function gumpal_bulat_sudut_Halus(ByVal a As Double)
Dim b As Double
If a <= 7.5 And a >= 2.5 Then
    b = (a - 2.5) / 5
ElseIf a <= 12.5 And a >= 7.5 Then
    b = (12.5 - a) / 5
Else
    b = 0
End If
Return b
End Function

```

```

Public Function gumpal_bulat_sudut_sedang(ByVal a As Double)
Dim b As Double
If a <= 15 And a >= 7.5 Then
    b = (a - 7.5) / 7.5
ElseIf a <= 22.5 And a >= 15 Then
    b = (22.5 - a) / 7.5
Else
    b = 0
End If
Return b
End Function

```

```

Public Function gumpal_bulat_sudut_kasar(ByVal a As Double)
Dim b As Double
If a <= 30 And a >= 17.5 Then
    b = (a - 17.5) / 12.5
ElseIf a <= 52.5 And a >= 30 Then
    b = (52.5 - a) / 22.5
Else

```

```

    b = 0
End If
Return b
End Function
Public Function gumpal_bulat_sudut_sangatKasar(ByVal a As Double)
    Dim b As Double
    If a <= 50 And a >= 47.5 Then
        b = (a - 47.5) / 2.5
    ElseIf a >= 50 Then
        b = 1
    Else
        b = 0
    End If
    Return b
End Function
.....
Public Function Prismatic_Kolumnar_sangatHalus(ByVal a As Double)
    Dim b As Double
    If a <= 15 And a >= 0 Then
        b = (15 - a) / 15
    Else
        b = 0
    End If
    Return b
End Function
Public Function Prismatic_Kolumnar_Halus(ByVal a As Double)
    Dim b As Double
    If a <= 15 And a >= 5 Then
        b = (a - 5) / 10
    ElseIf a <= 25 And a >= 15 Then
        b = (25 - a) / 10
    Else
        b = 0
    End If
    Return b
End Function
Public Function Prismatic_Kolumnar_sedang(ByVal a As Double)
    Dim b As Double
    If a <= 35 And a >= 15 Then
        b = (a - 15) / 20
    ElseIf a <= 55 And a >= 35 Then
        b = (55 - a) / 20
    Else

```



```

        b = 0
    End If
    Return b
End Function
Public Function Prismatic_Kolumnar_kasar(ByVal a As Double)
    Dim b As Double
    If a <= 75 And a >= 45 Then
        b = (a - 45) / 30
    ElseIf a <= 105 And a >= 75 Then
        b = (105 - a) / 30
    Else
        b = 0
    End If
    Return b
End Function
Public Function Prismatic_Kolumnar_sangatKasar(ByVal a As Double)
    Dim b As Double
    If a <= 100 And a >= 95 Then
        b = (a - 96) / 5
    ElseIf a >= 100 Then
        b = 1
    Else
        b = 0
    End If
    Return b
End Function
End Class

```

6. Kelas Tekstur

```

Public Class ClassHimpTekstur
    Public Function sangatRendah(ByVal a As Double)
        Dim b As Double
        If a <= 15 And a >= 0 Then
            b = (15 - a) / 15
        Else
            b = 0
        End If
        Return b
    End Function
    Public Function Rendah(ByVal a As Double)
        Dim b As Double
        If a <= 20 And a >= 5 Then

```

```

        b = (a - 5) / 15
    ElseIf a <= 35 And a >= 20 Then
        b = (35 - a) / 15
    Else
        b = 0
    End If
    Return b
End Function
Public Function Sedang(ByVal a As Double)
    Dim b As Double
    If a <= 40 And a >= 25 Then
        b = (a - 25) / 15
    ElseIf a <= 55 And a >= 40 Then
        b = (55 - a) / 15
    Else
        b = 0
    End If
    Return b
End Function
Public Function tinggi(ByVal a As Double)
    Dim b As Double
    If a <= 60 And a >= 45 Then
        b = (a - 45) / 15
    ElseIf a <= 75 And a >= 60 Then
        b = (75 - a) / 15
    Else
        b = 0
    End If
    Return b
End Function
Public Function sangatTinggi(ByVal a As Double)
    Dim b As Double
    If a <= 70 And a >= 65 Then
        b = (a - 65) / 5
    ElseIf a >= 70 Then
        b = 1
    Else
        b = 0
    End If
    Return b
End Function
End Class

```

7. Kelas Konsistensi

```
Public Class ClassKonsistensi
    Public basah, lembab, kering As Double
    Dim a1, a2, a3, a4 As Double
    Public Sub konsistensi()
        If lembab = 2 Or lembab = 3 Then
            a1 = 1
        Else
            a1 = 0
        End If
        If ovar.a1 > a1 Then
            ovar.a1 = a1
        End If
        If lembab = 3 Then
            a2 = 1
        Else
            a2 = 0
        End If
        If ovar.a2 > a2 Then
            ovar.a2 = a2
        End If

        If lembab = 4 Or lembab = 3 Then
            a3 = 1
        Else
            a3 = 0
        End If
        If ovar.a3 > a3 Then
            ovar.a3 = a3
        End If

        If lembab = 4 Or lembab = 5 Then
            a4 = 1
        Else
            a4 = 0
        End If
        If ovar.a4 > a4 Then
            ovar.a4 = a4
        End If
        If kering = 2 Or kering = 3 Or kering = 4 Then
            a1 = 1
        Else
```

```

    a1 = 0
End If
If ovar.a1 > a1 Then
    ovar.a1 = a1
End If

If kering = 3 Or kering = 4 Then
    a2 = 1
Else
    a2 = 0
End If
If ovar.a2 > a2 Then
    ovar.a2 = a2
End If

If kering = 4 Then
    a3 = 1
Else
    a3 = 0
End If
If ovar.a3 > a3 Then
    ovar.a3 = a3
End If
If kering = 4 Or kering = 5 Then
    a4 = 1
Else
    a4 = 0
End If
If ovar.a4 > a4 Then
    ovar.a4 = a4
End If
End Sub
End Class

```

8. Kelas Pori Tanah

```

Public Class ClassHimpPori
    Public Function sedikit(ByVal a As Double)
        Dim b As Double
        If a <= 27.5 And a >= 0 Then
            b = (a - 0) / 22.5
        ElseIf a <= 55 And a >= 27.5 Then
            b = (55 - a) / 27.5
        End If
    End Function
End Class

```

```
Else
    b = 0
End If
Return b
End Function
Public Function sedang(ByVal a As Double)
    Dim b As Double
    If a <= 122.5 And a >= 45 Then
        b = (a - 45) / 77.5
    ElseIf a <= 200 And a >= 122.5 Then
        b = (200 - a) / 77.5
    Else
        b = 0
    End If
    Return b
End Function
Public Function banyak(ByVal a As Double)
    Dim b As Double
    If a <= 200 And a >= 195 Then
        b = (a - 195) / 5
    ElseIf a >= 200 Then
        b = 1
    Else
        b = 0
    End If
    Return b
End Function
End Class
```