

## APÉNDICE 1: CÓDIGO DE LA CLASE NODO

```
Option Explicit  
Option Base 1
```

```
Public Nombre As String  
Dim Nodos  
Dim Conexiones() As String  
Dim Distancias() As String
```

```
Sub AgregaNodos(ByVal arr As Variant) 'arr debe de ser un arreglo  
Dim i As Integer
```

```
ReDim Conexiones(1 To UBound(arr))
```

```
For i = 1 To UBound(arr)  
    Conexiones(i) = arr(i)  
Next
```

```
Nodos = UBound(Conexiones)
```

```
End Sub
```

```
Sub AgregaDist(ByVal arr As Variant) 'arr debe de ser un arreglo de double  
Dim i As Integer
```

```
ReDim Distancias(1 To UBound(arr))
```

```
For i = 1 To UBound(arr)  
    Distancias(i) = arr(i)  
Next
```

```
Nodos = UBound(Distancias)
```

```
End Sub
```

```
Property Get Contar()
```

```
Contar = Nodos
```

```
End Property
```

```
Property Get ObtenDist(N As String) As Double  
Dim i As Integer  
Dim Va As Variant
```

```
For i = 1 To Nnodos
    If Conexiones(i) = N Then
        Va = Distancias(i)
        Exit For
    End If
Next
```

```
If IsNumeric(Va) Then
    ObtenDist = Va
Else
    ObtenDist = Interpreta(Va)
End If
```

```
End Property
```

```
Property Get ArrDist() As Variant
    ArrDist = Distancias
End Property
```

```
Property Get ArrNodos() As Variant
    ArrNodos = Conexiones
End Property
```

```
Private Function Interpreta(ByVal Dist As String) As Double
    Dim i As Integer
    Dim p As Integer
    Dim contProb As Integer
    Dim contPunto As Integer
    Dim Clave As String
    Dim cadena As String
    Dim Actual As String
    Dim TocaProb As Boolean
    Dim ran As Single
    Dim Miu As Double
    Dim Sigma As Double
```

```
p = 1
contProb = 0
contPunto = 0
Clave = UCase(Mid(Dist, 1, 3))
Select Case Clave
    Case "DIS"
        Dim Prob() As Single
        Dim Punto() As Double
        i = 1
        TocaProb = True
        Actual = Mid(Dist, 4 + i, 1)
        While Actual <> ""
```

```

If Actual = "," Then
  Select Case TocaProb
    Case True
      contProb = contProb + 1
      ReDim Preserve Prob(1 To contProb)
      If contProb = 1 Then
        Prob(contProb) = Val(cadena)
      Else
        Prob(contProb) = Val(cadena) + Prob(contProb - 1)
      End If
    Case False
      contPunto = contPunto + 1
      ReDim Preserve Punto(1 To contPunto)
      Punto(contPunto) = Val(cadena)

  End Select
  cadena = ""
  TocaProb = Not (TocaProb)

Else
  cadena = cadena & Actual
End If

i = i + 1
Actual = Mid(Dist, 4 + i, 1)
Wend
contPunto = contPunto + 1
ReDim Preserve Punto(1 To contPunto)
Punto(contPunto) = Val(cadena)
Interpreta = Dis(Punto, Prob)

Case "EXP"
  Dim Beta As Double
  cadena = ""
  i = 1
  Actual = Mid(Dist, 4 + i, 1)
  While Actual <> ""
    cadena = cadena & Actual
    i = i + 1
    Actual = Mid(Dist, 4 + i, 1)
  Wend
  Beta = Val(cadena)
  Interpreta = Exponencial(Beta)
Case "NOR"
  i = 1
  cadena = ""
  Actual = Mid(Dist, 4 + i, 1)
  While Actual <> ""
    Select Case Actual
      Case ","

```

```

        Miu = Val(cadena)
        cadena = ""
    Case Else
        cadena = cadena & Actual
    End Select
    Sigma = Val(cadena)
    i = i + 1
    Actual = Mid(Dist, 4 + i, 1)
Wend
Interpreta = Normal(Miu, Sigma)
Case "GAM"
    i = 1
    cadena = ""
    Actual = Mid(Dist, 4 + i, 1)
    While Actual <> ""
        Select Case Actual
            Case ","
                Miu = Val(cadena)
                cadena = ""
            Case Else
                cadena = cadena & Actual
        End Select
        Sigma = Val(cadena)
        i = i + 1
        Actual = Mid(Dist, 4 + i, 1)
    Wend
    Dim alf As Integer
    alf = Int(Miu)
    Interpreta = Gamma(alf, Sigma)
Case "BET"
    i = 1
    cadena = ""
    Actual = Mid(Dist, 4 + i, 1)
    While Actual <> ""
        Select Case Actual
            Case ","
                Miu = Val(cadena)
                cadena = ""
            Case Else
                cadena = cadena & Actual
        End Select
        Sigma = Val(cadena)
        i = i + 1
        Actual = Mid(Dist, 4 + i, 1)
    Wend
    Interpreta = BetaDist(Miu, Sigma)
End Select

End Function

```