ANEXO D

Código del programa Inventario.

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```
Private Sub CheckBox1_Click()
If CheckBox1 Then
Frame4.Enabled = True
Else
Frame4.Enabled = False
End If
End Sub

Private Sub CheckBox2_Click()
If CheckBox2 Then
Frame5.Enabled = True
Else
Frame5.Enabled = False
End If
End Sub

Private Sub CheckBox3_Click()
If CheckBox3 Then
Frame3.Enabled = True
Else
Frame3.Enabled = False
End If
End Sub

Private Sub CommandButton1_Click()
Workbooks("Garlo.xls").Worksheets("Venta Diaria").Visible = True
Workbooks("Garlo.xls").Worksheets("Venta Diaria").Activate
Application.ScreenUpdating = False
Workbooks("Garlo.xls").Worksheets("Venta Diaria").Range("B2").Select

While Not IsEmpty(ActiveCell)
ActiveCell.Offset(1, 0).Select
Wend

Application.ScreenUpdating = True
ActiveCell.Show
End Sub

Private Sub CommandButton2_Click()
estadisticos
End Sub
```

```
Private Sub CommandButton3_Click()
Workbooks("Garlo.xls").Worksheets("Venta Diaria").Visible = True
Workbooks("Garlo.xls").Worksheets("Venta Diaria").Activate
Workbooks("Garlo.xls").Worksheets("Venta Diaria").Range("W2").Select
ActiveCell.Show
End Sub

Private Sub CommandButton4_Click()
calcular
End Sub


Sub estadisticos()

Application.ScreenUpdating = False
media1 = 0
Var1 = 0
desv1 = 0
media2 = 0
Var2 = 0
desv2 = 0
media3 = 0
Var3 = 0
desv3 = 0


Workbooks("Garlo.xls").Worksheets("Venta Diaria").Visible = True
Workbooks("Garlo.xls").Worksheets("Venta Diaria").Activate
Workbooks("Garlo.xls").Worksheets("Venta Diaria").Range("V3").Select

mese = 1
While Not IsEmpty(ActiveCell)
If Month(ActiveCell) <> Month(ActiveCell.Offset(-1, 0)) Then
mese = mese + 1
End If
ActiveCell.Offset(1, 0).Select
Wend

ReDim vsumasmens(1 To mese, 1 To 3) As Double

Workbooks("Garlo.xls").Worksheets("Venta Diaria").Visible = True
Workbooks("Garlo.xls").Worksheets("Venta Diaria").Activate
Workbooks("Garlo.xls").Worksheets("Venta Diaria").Range("V2").Select


While Not IsEmpty(ActiveCell.Offset(0, 1))
```

```
   vsumasmens(Month(ActiveCell), 1) = vsumasmens(Month(ActiveCell), 1) +
ActiveCell.Offset(0, 1)
   vsumasmens(Month(ActiveCell), 2) = vsumasmens(Month(ActiveCell), 2) +
ActiveCell.Offset(0, 2)
   vsumasmens(Month(ActiveCell), 3) = vsumasmens(Month(ActiveCell), 3) +
ActiveCell.Offset(0, 3)
   ActiveCell.Offset(1, 0).Select
Wend
media = 0
For I = 1 To 12
   media1 = media1 + vsumasmens(I, 1)
   media2 = media2 + vsumasmens(I, 2)
   media3 = media3 + vsumasmens(I, 3)
Next I

demanda1 = media1
demanda2 = media2
demanda3 = media3

media1 = media1 / 12
media2 = media2 / 12
media3 = media3 / 12

Var1 = Application.WorksheetFunction.Var(vsumasmens(1, 1), _
                                         vsumasmens(2, 1), _
                                         vsumasmens(3, 1), _
                                         vsumasmens(4, 1), _
                                         vsumasmens(5, 1), _
                                         vsumasmens(6, 1), _
                                         vsumasmens(7, 1), _
                                         vsumasmens(8, 1), _
                                         vsumasmens(9, 1), _
                                         vsumasmens(10, 1), _
                                         vsumasmens(11, 1), _
                                         vsumasmens(12, 1))
desv1 = Sqr(Var1)

Var2 = Application.WorksheetFunction.Var(vsumasmens(1, 2), _
                                         vsumasmens(2, 2), _
                                         vsumasmens(3, 2), _
                                         vsumasmens(4, 2), _
                                         vsumasmens(5, 2), _
                                         vsumasmens(6, 2), _
                                         vsumasmens(7, 2), _
                                         vsumasmens(8, 2), _
                                         vsumasmens(9, 2), _
```

```
                                        vsumasmens(10, 2), _
                                        vsumasmens(11, 2), _
                                        vsumasmens(12, 2))
desv2 = Sqr(Var2)

Var3 = Application.WorksheetFunction.Var(vsumasmens(1, 3), _
                                        vsumasmens(2, 3), _
                                        vsumasmens(3, 3), _
                                        vsumasmens(4, 3), _
                                        vsumasmens(5, 3), _
                                        vsumasmens(6, 3), _
                                        vsumasmens(7, 3), _
                                        vsumasmens(8, 3), _
                                        vsumasmens(9, 3), _
                                        vsumasmens(10, 3), _
                                        vsumasmens(11, 3), _
                                        vsumasmens(12, 3))
desv3 = Sqr(Var3)

pasadatos
Workbooks("Garlo.xls").Worksheets("Venta Diaria").Visible = False
Application.ScreenUpdating = True
End Sub

Sub pasadatos()
UserForm1.ComboBox1.Clear
UserForm1.ComboBox2.Clear
UserForm1.ComboBox3.Clear
UserForm1.ComboBox4.Clear
UserForm1.ComboBox5.Clear
UserForm1.ComboBox6.Clear
UserForm1.ComboBox7.Clear
UserForm1.ComboBox8.Clear
UserForm1.ComboBox9.Clear

UserForm1.ComboBox1.AddItem media1
UserForm1.ComboBox3.AddItem media2
UserForm1.ComboBox5.AddItem media3

UserForm1.ComboBox2.AddItem desv1
UserForm1.ComboBox4.AddItem desv2
UserForm1.ComboBox6.AddItem desv3

UserForm1.ComboBox7.AddItem demanda1
UserForm1.ComboBox8.AddItem demanda2
UserForm1.ComboBox9.AddItem demanda3
```

```
End Sub

Sub calcular()
On Error GoTo valida

If CheckBox1 Then

m1 = CSng(ComboBox1.Text)
s1 = CSng(ComboBox2.Text)
l1 = CSng(ComboBox7.Text)
C1 = CSng(TextBox7.Text)
I1 = CSng(TextBox8.Text)
A1 = CSng(TextBox5.Text)
p1 = CSng(TextBox3.Text)

Q1a = Sqr((2 * l1 * A1) / (I1 * C1))


Q1 = 0


If Q1a = 0 Then GoTo EC



While Round(Q1, 0) - Round(Q1a, 0) <> 0

EC:
If Q1a = 0 Then
alpha1 = 0

Else
H1 = (Q1a * I1 * C1) / (p1 * l1)

If (0 < H1) And (H1 < 0.5) Then
alpha1 = Application.WorksheetFunction.NormInv(1 - H1, 0, 1)


ElseIf (0.5 <= H1) And (H1 < 1) Then
alpha1 = 0 'Application.WorksheetFunction.NormInv(1 - H1, 0, 1)


ElseIf H1 >= 1 Then
H1 = 1
alpha1 = 0
```

```
End If

End If


r1 = m1 + s1 * alpha1


f1 = (1 / Sqr(2 * 3.141592654)) * Exp(-((H1 ^ 2) / 2))

n1 = ((m1 - r1) * H1) + (s1 * f1)

Q1 = Q1a

Q1a = Sqr((2 * l1 * (A1 + p1 * n1)) / (I1 * C1))

Wend

   K1a1 = l1 * A1
   K1a2 = Q1a
K1a = (K1a1 / K1a2) '((l1 * A1) / Q1a)


   K1b1 = I1 * C1
   K1b2 = Q1a / 2
   K1b3 = r1
   K1b4 = m1
K1b = (K1b1 * (K1b2 + K1b3 - K1b4)) 'I1 * C1 * ((Q1a / 2) + r1 - m1)


   K1c1 = p1 * l1
   K1c2 = Q1a
   K1c3 = m1 - r1
   K1c4 = H1
   K1c5 = s1 * f1
K1c = ((K1c1 / K1c2) * ((K1c3 * K1c4) + K1c5)) '((p1 * l1) / Q1a) * (((m1 - r1) * H1) +
(s1 * f1))


K1 = K1a + K1b + K1c


End If
If CheckBox2 Then

m2 = CSng(ComboBox3.Text)
```

```
s2 = CSng(ComboBox4.Text)
l2 = CSng(ComboBox8.Text)
C2 = CSng(TextBox12.Text)
I2 = CSng(TextBox13.Text)
A2 = CSng(TextBox11.Text)
p2 = CSng(TextBox10.Text)

Q2a = Sqr((2 * l2 * A2) / (I2 * C2))


Q2 = 0


If Q2a = 0 Then GoTo ED

While Round(Q2, 0) - Round(Q2a, 0) <> 0
ED:
If Q2a = 0 Then
alpha2 = 0

Else
H2 = (Q2a * I2 * C2) / (p2 * l2)

If (0 < H2) And (H2 < 0.5) Then
alpha2 = Application.WorksheetFunction.NormInv(1 - H2, 0, 1)


ElseIf (0.5 <= H2) And (H2 < 1) Then
alpha2 = 0 'Application.WorksheetFunction.NormInv(1 - H1, 0, 1)


ElseIf H2 >= 1 Then
H2 = 1
alpha2 = 0


End If

End If


r2 = m2 + s2 * alpha2


f2 = (1 / Sqr(2 * 3.141592654)) * Exp(-((H2 ^ 2) / 2))
```

```
n2 = ((m2 - r2) * H2) + (s2 * f2)

Q2 = Q2a

Q2a = Sqr((2 * l2 * (A2 + p2 * n2)) / (I2 * C2))

Wend

   K2a1 = l2 * A2
   K2a2 = Q2a
K2a = (K2a1 / K2a2) '((l2 * A2) / Q2a)


   K2b1 = I2 * C2
   K2b2 = Q2a / 2
   K2b3 = r2
   K2b4 = m2
K2b = (K2b1 * (K2b2 + K2b3 - K2b4)) 'I2 * C2 * ((Q2a / 2) + r2 - m2)


   K2c1 = p2 * l2
   K2c2 = Q2a
   K2c3 = m2 - r2
   K2c4 = H2
   K2c5 = s2 * f2
K2c = ((K2c1 / K2c2) * ((K2c3 * K2c4) + K2c5)) '((p2 * l2) / Q2a) * (((m2 - r2) * H2) +
(s2 * f2))


K2 = K2a + K2b + K2c

'K2 = ((l2 * A2) / Q2a) + I2 * C2 * ((Q2a / 2) + r2 - m2) + ((p2 * l2) / Q2a) * (((m2 - r2)
* H2) + (s2 * f2))

End If



 If CheckBox3 Then

m3 = CSng(ComboBox5.Text)
s3 = CSng(ComboBox6.Text)
l3 = CSng(ComboBox9.Text)
C3 = CSng(TextBox17.Text)
I3 = CSng(TextBox18.Text)
A3 = CSng(TextBox16.Text)
```

```
p3 = CSng(TextBox15.Text)

Q3a = Sqr((2 * l3 * A3) / (I3 * C3))


Q3 = 0


If Q3a = 0 Then GoTo EF

While Round(Q3, 0) - Round(Q3a, 0) <> 0
EF:
If Q3a = 0 Then
alpha3 = 0

Else
H3 = (Q3a * I3 * C3) / (p3 * l3)

If (0 < H2) And (H2 < 0.5) Then
alpha3 = Application.WorksheetFunction.NormInv(1 - H3, 0, 1)


ElseIf (0.5 <= H3) And (H3 < 1) Then
alpha3 = 0 'Application.WorksheetFunction.NormInv(1 - H3, 0, 1)


ElseIf H3 >= 1 Then
H3 = 1
alpha3 = 0


End If

End If

r3 = m3 + s3 * alpha3


f3 = (1 / Sqr(2 * 3.141592654)) * Exp(-((H3 ^ 2) / 2))

n3 = ((m3 - r3) * H3) + (s3 * f3)

Q3 = Q3a

Q3a = Sqr((2 * l3 * (A3 + p3 * n3)) / (I3 * C3))
```

```
Wend

   K3a1 = l3 * A3
   K3a2 = Q3a
K3a = (K3a1 / K3a2) '((l3 * A3) / Q3a)


   K3b1 = I3 * C3
   K3b2 = Q3a / 2
   K3b3 = r3
   K3b4 = m3
K3b = (K3b1 * (K3b2 + K3b3 - K3b4)) 'I3 * C3 * ((Q3a / 2) + r3 - m3)


   K3c1 = p3 * l3
   K3c2 = Q3a
   K3c3 = m3 - r3
   K3c4 = H3
   K3c5 = s3 * f3
K3c = ((K3c1 / K3c2) * ((K3c3 * K3c4) + K3c5)) '((p3 * l3) / Q3a) * (((m3 - r3) * H3) +
(s3 * f3))

K3 = K3a + K3b + K3c

'K3 = ((l3 * A3) / Q3a) + I3 * C3 * ((Q3a / 2) + r3 - m3) + ((p3 * l3) / Q3a) * (((m3 - r3)
* H3) + (s3 * f3))

End If


UserForm2.Show



Exit Sub

valida:
MsgBox "Existe un escenario irreal" & Chr(13) & "o" & Chr(13) & "Falta alguno de los
campos por llenar", , "Error"

End Sub

Private Sub CommandButton5_Click()
Unload Me
End Sub
```

```
Private Sub UserForm_Initialize()
inicio
End Sub

Sub inicio()
año = 2004
Frame4.Enabled = False
Frame5.Enabled = False
Frame3.Enabled = False

End Sub

Sub resultados()
If UserForm1.CheckBox1 Then
UserForm2.Label4 = Round(Q1a, 0) & vbCrLf & vbCrLf & Round(r1, 0) & vbCrLf &
vbCrLf & Round(K1, 0) & vbCrLf & vbCrLf & Round(H1, 2) & vbCrLf & vbCrLf &
Round(K1a1, 2) & "/" & Round(K1a2, 2) & "=" & Round(K1a, 2) & vbCrLf & vbCrLf
& "(" & Round(K1b1, 2) & "*" & "(" & Round(K1b2, 2) & "+" & Round(K1b3, 2) & "-"
& Round(K1b4, 2) & "))" & vbCrLf & "=" & Round(K1b, 2) & vbCrLf & vbCrLf & "(("
& Round(K1c1, 2) & "/" & Round(K1c2, 2) & ")" & vbCrLf & "*" & "((" &
Round(K1c3, 2) & "*" & Round(K1c4, 2) & ")" & "+" & Round(K1c5, 2) & "))" &
vbCrLf & "=" & Round(K1c, 2)
Else
 UserForm2.Label7.Visible = False
 UserForm2.Label8.Visible = False
 UserForm2.Label9.Visible = False
 UserForm2.Label1.Visible = False
 UserForm2.Label4.Visible = False
End If

If UserForm1.CheckBox2 Then
UserForm2.Label5 = Round(Q2a, 0) & vbCrLf & vbCrLf & Round(r2, 0) & vbCrLf &
vbCrLf & Round(K2, 0) & vbCrLf & vbCrLf & Round(H2, 2) & vbCrLf & vbCrLf &
Round(K2a1, 2) & "/" & Round(K2a2, 2) & "=" & Round(K2a, 2) & vbCrLf & vbCrLf
& "(" & Round(K2b1, 2) & "*" & "(" & Round(K2b2, 2) & "+" & Round(K2b3, 2) & "-"
& Round(K2b4, 2) & "))" & vbCrLf & "=" & Round(K2b, 2) & vbCrLf & vbCrLf & "(("
& Round(K2c1, 2) & "/" & Round(K2c2, 2) & ")" & vbCrLf & "*" & "((" &
Round(K2c3, 2) & "*" & Round(K2c4, 2) & ")" & "+" & Round(K2c5, 2) & "))" &
vbCrLf & "=" & Round(K2c, 2)
Else
 UserForm2.Label10.Visible = False
 UserForm2.Label11.Visible = False
 UserForm2.Label12.Visible = False
 UserForm2.Label2.Visible = False
 UserForm2.Label5.Visible = False
End If
```

```
If UserForm1.CheckBox3 Then
UserForm2.Label6 = Round(Q3a, 0) & vbCrLf & vbCrLf & Round(r3, 0) & vbCrLf &
vbCrLf & Round(K3, 0) & vbCrLf & vbCrLf & Round(H3, 2) & vbCrLf & vbCrLf &
Round(K3a1, 2) & "/" & Round(K3a2, 2) & "=" & Round(K3a, 2) & vbCrLf & vbCrLf
& "(" & Round(K3b1, 2) & "*" & "(" & Round(K3b2, 2) & "+" & Round(K3b3, 2) & "-"
& Round(K3b4, 2) & "))" & vbCrLf & "=" & Round(K3b, 2) & vbCrLf & vbCrLf & "(("
& Round(K3c1, 2) & "/" & Round(K3c2, 2) & ")" & vbCrLf & "*" & "((" &
Round(K3c3, 2) & "*" & Round(K3c4, 2) & ")" & "+" & Round(K3c5, 2) & "))" &
vbCrLf & "=" & Round(K3c, 2)
Else
 UserForm2.Label13.Visible = False
 UserForm2.Label14.Visible = False
 UserForm2.Label15.Visible = False
 UserForm2.Label3.Visible = False
 UserForm2.Label6.Visible = False
End If

End Sub
```