Sub NewClassifierDMAAnalysis()

' Open the 161230\_RunData\_Template and Save As current run name.

'Copy and paste the Run Table from the Spark software on Sheet 3 starting at B2.

'Copy and paste AIM exported data into Sheet2 and Sheet4. Leave the Workbook open on Sheet 4.

Dim icol As Integer

Dim firstrow As Integer

Dim lastrow As Integer

Dim lastrowR As Range

Dim firstrowR As Range

Dim osh As Worksheet

Dim colset As Range

Dim rowset As Range

Set osh = Application.ActiveSheet

Rows("26:28").Select

Selection.Copy

Worksheets("Sheet3").Activate

ActiveSheet.Range("Z1").Select

Selection.PasteSpecial Paste:=xlPasteAll, operation:=xlNone, SkipBlanks:= \_

True, Transpose:=True

osh.Select

Range("A1").Select

Cells.Find(What:="Total", After:=ActiveCell, LookIn:=xlFormulas, LookAt \_

:=xlPart, SearchOrder:=xlByRows, SearchDirection:=xlNext, MatchCase:= \_

False, SearchFormat:=False).Activate

firstrow = ActiveCell.Row

Set firstrowR = Range(osh.Cells(1, 1), osh.Cells(firstrow, 1)).EntireRow

firstrowR.Select

Selection.Delete

Cells.Find(What:="Title", After:=ActiveCell, LookIn:=xlFormulas, LookAt:=xlPart, SearchOrder:=xlByRows, SearchDirection:=xlNext, MatchCase:=False \_

, SearchFormat:=False).Activate

lastrow = ActiveCell.Row

Set lastrowR = Range(osh.Cells(lastrow, 1), osh.Cells(lastrow + 10, 1)).EntireRow

lastrowR.Select

Selection.Delete

Set rowset = Range(Range("A2"), Range("A2").End(xlDown))

'get rid of diameters

Range("A:A").Select

Selection.Delete

Range("C1").Select

LastCol = ActiveSheet.Cells(1, Columns.Count).End(xlToLeft).Column

For i = ActiveCell.Column To LastCol + 1

Columns(i).EntireColumn.Delete

Columns(i).EntireColumn.Delete

Next i

Dim n As Integer

Dim ccol As Integer

Dim startcell As Range

Dim lastcell As Range

Dim crow As Integer

Set startcell = Range("B2")

Set lastcell = startcell.End(xlToRight)

ccol = Worksheets("Sheet4").UsedRange.Columns.Count

crow = Worksheets("Sheet4").UsedRange.Rows.Count

'rename

Range("B1") = "Inj" & 1

For n = 2 To ccol

Cells(1, n + 1) = "Inj" & n

Next n

Dim Replistartcell As Range

Dim Replilastcell As Range

Dim backccol As Integer

Set startcell = Range("B2")

Set lastcell = startcell.End(xlToRight)

Set colset = Range(startcell, lastcell)

colset.Select

ccol = Selection.Columns.Count

backccol = -ccol

Range("B2", Range("B2").End(xlDown)).Select

endcell = Selection.Rows.Count

Set farcell = lastcell.End(xlDown)

For j = startcell.Column To lastcell.Column

Columns(j).Select

Selection.Copy

ActiveCell.Offset(ColumnOffset:=ccol).Activate

Selection.PasteSpecial Paste:=xlPasteValues, operation:=xlNone, SkipBlanks:=False, Transpose:=False

Next j

Set Replilastcell = startcell.End(xlToRight)

Set Replistartcell = startcell.Offset(0, ccol)

Range(startcell.Offset(0, ccol), Replilastcell.End(xlDown)).Formula = "= B2\*((25.02\*EXP(-0.2382\*$A2))+(950.9\*EXP(-1.017\*$A2))+1)"

Range(startcell.Offset(0, ccol), Replilastcell.End(xlDown)).Select

Selection.Copy

ActiveCell.Offset(ColumnOffset:=backccol).Activate

Selection.PasteSpecial Paste:=xlPasteValues, operation:=xlNone, SkipBlanks:=False, Transpose:=False

Range(startcell.Offset(-1, ccol), Replilastcell.End(xlDown)).Select

Selection.Delete

Dim diacell As Range

Dim diameter As Double

Dim startcellsum As Range

Dim lastcellsum As Range

Dim colsetsum As Range

Dim Sumbin As Double

Dim nrow As Integer

Dim Mediansum As Double

Dim Ratiosum As Double

Dim ScanOriginals As Worksheet

i = 1

l = 4

Set ScanOriginals = ActiveWorkbook.Sheets("Sheet4")

ScanOriginals.Activate

Set endcell = startcell.End(xlDown)

'Select Case

For n = 1 To crow

Set diacell = Range("A" & n)

If diacell.Value > 8# And diacell.Value < 9# Then

diacell.Activate

ActiveCell.EntireRow.Select

Selection.Copy

Worksheets("Sheet6").Range("A1").Offset(0, i).PasteSpecial Paste:=xlPasteAll, operation:=xlNone, SkipBlanks:=True, Transpose:=True

i = i + 1

End If

Next n

Worksheets("Sheet4").Range(Cells(1, 1), Cells(1, ccol)).Select

Selection.Copy

Worksheets("Sheet6").Range("A1").PasteSpecial Paste:=xlPasteAll, operation:=xlNone, SkipBlanks:= \_

True, Transpose:=True

Worksheets("Sheet6").Activate

Set startcellsum = Worksheets("Sheet6").Range("B2")

Set lastcellsum = startcellsum.End(xlToRight)

Set endcellsum = lastcellsum.End(xlDown)

ncol = Worksheets("Sheet6").UsedRange.Columns.Count

nrow = Worksheets("Sheet6").UsedRange.Rows.Count

For o = 2 To ccol

Sumbin = WorksheetFunction.Sum(Range(Cells(o, 2), Cells(o, ncol + 1)))

Worksheets("Sheet6").Cells(o, ncol + 4).Value = Sumbin

Next o

For m = 4 To (nrow - 5) Step 6

Mediansum = WorksheetFunction.Median(Range(Cells(m, ncol + 4), Cells(m + 3, ncol + 4)))

Worksheets("Sheet6").Cells(m, ncol + 5).Value = Mediansum

Next m

For f = 4 To nrow Step 6

If Cells(f, ncol + 4).Value > 0 Then

Ratiosum1 = Cells(f, ncol + 5).Value / Cells(f, ncol + 4).Value

Worksheets("Sheet6").Cells(f, ncol + 6).Value = Ratiosum1

If Ratiosum1 > 1.15 Then

Cells(f, ncol + 7) = Cells(f, 1)

End If

If Ratiosum1 < 0.85 Then

Cells(f, ncol + 7) = Cells(f, 1)

End If

End If

If Cells(f + 1, ncol + 4).Value > 0 Then

Ratiosum2 = Cells(f, ncol + 5).Value / Cells(f + 1, ncol + 4).Value

Worksheets("Sheet6").Cells(f + 1, ncol + 6).Value = Ratiosum2

If Ratiosum2 > 1.15 Then

Cells(f + 1, ncol + 7) = Cells(f + 1, 1)

End If

If Ratiosum2 < 0.85 Then

Cells(f + 1, ncol + 7) = Cells(f + 1, 1)

End If

End If

If Cells(f + 2, ncol + 4).Value > 0 Then

Ratiosum3 = Cells(f, ncol + 5).Value / Cells(f + 2, ncol + 4).Value

Worksheets("Sheet6").Cells(f + 2, ncol + 6).Value = Ratiosum3

If Ratiosum3 > 1.15 Then

Cells(f + 2, ncol + 7) = Cells(f + 2, 1)

End If

If Ratiosum3 < 0.85 Then

Cells(f + 2, ncol + 7) = Cells(f + 2, 1)

End If

End If

If Cells(f + 3, ncol + 4).Value > 0 Then

Ratiosum4 = Cells(f, ncol + 5).Value / Cells(f + 3, ncol + 4).Value

Worksheets("Sheet6").Cells(f + 3, ncol + 6).Value = Ratiosum4

If Ratiosum4 > 1.15 Then

Cells(f + 3, ncol + 7) = Cells(f + 3, 1)

End If

If Ratiosum4 < 0.85 Then

Cells(f + 3, ncol + 7) = Cells(f + 3, 1)

End If

End If

Next f

Dim Sourcesheet As Worksheet

Dim Pastesheet As Worksheet

Dim EndID As Integer

Dim AssayIDScan As Object

Dim AssayID As Integer

Dim StartID As Range

Set Sourcesheet = Worksheets("Sheet3")

Set Pastesheet = Worksheets("Sheet6")

Sourcesheet.Activate

Set StartID = Worksheets("Sheet3").Range("N2")

Set LastID = StartID.End(xlDown)

Range(StartID, LastID).Select

EndID = Selection.Rows.Count

For AssayID = 2 To EndID

Set AssayIDScan = Worksheets("Sheet3").Cells(AssayID, 14)

Worksheets("Sheet6").Cells(l, ncol + 8) = AssayIDScan

l = l + 6

Next AssayID

Dim flagcells As Range

Dim Samplecell As Range

Dim Scancell As Range

Dim EndScancell As Integer

Worksheets("Sheet4").Cells(1, 1).EntireRow.Insert

Worksheets("Sheet4").Cells(1, 1).EntireRow.Insert

Worksheets("Sheet6").Activate

Worksheets("Sheet6").Range(Cells(1, ncol + 7), Cells(nrow, ncol + 8)).Select

Selection.Copy

Worksheets("Sheet4").Range("A1").PasteSpecial Paste:=xlPasteAll, operation:=xlNone, SkipBlanks:= \_

True, Transpose:=True

Worksheets("Sheet4").Activate

EndScancell = Worksheets("Sheet4").UsedRange.Columns.Count

Set Scancell = Range(Cells(3, 1), Cells(3, EndScancell + 2))

Set flagcells = Range(Cells(1, 1), Cells(1, EndScancell + 2))

For Each Samplecell In flagcells

If Not IsEmpty(Samplecell) And Samplecell.Value = Samplecell.Offset(2, 0).Value Then

Samplecell.EntireColumn.ClearContents

End If

Next Samplecell

Dim averagescan As Double

Dim Number As String

Dim p As Long

Dim q As Long

Dim r As Integer

r = 6

For q = 4 To crow

For p = 2 To (ccol - 6) Step 6

Worksheets("Sheet4").Activate

If Application.WorksheetFunction.Count(Range(Cells(q, p + 2), Cells(q, p + 5))) > 0 Then

averagescan = WorksheetFunction.Average(Worksheets("Sheet4").Range(Cells(q, p + 2), Cells(q, p + 5)))

ncol = (p + 4) / r

Worksheets("Sheet5").Cells(q - 2, ncol + 1).Value = averagescan

Worksheets("Sheet5").Cells(1, ncol + 1) = "Inj" & ncol

End If

Next p

Next q

Dim Assayliststart As Range

Dim Blanks

Dim Blankstart

Dim Assaylist As Range

Worksheets("Sheet4").Activate

Set Assayliststart = Worksheets("Sheet3").Cells(2, 14)

Blankstart = WorksheetFunction.CountBlank(Worksheets("Sheet4").Range(Cells(4, 4), Cells(4, 7)))

If Blankstart = 1 Then

Assayliststart.Interior.ColorIndex = 39

End If

If Blankstart > 1 Then

Assayliststart.Interior.ColorIndex = 3

End If

For p = 8 To (ccol - 6) Step 6

Set Assaylist = Worksheets("Sheet3").Cells((p + 10) / 6, 14)

Blanks = WorksheetFunction.CountBlank(Worksheets("Sheet4").Range(Cells(4, p + 2), Cells(4, p + 5)))

If Blanks = 1 Then

Assaylist.Interior.ColorIndex = 39

End If

If Blanks > 1 Then

Assaylist.Interior.ColorIndex = 3

End If

Next p

Worksheets("Sheet4").Range("A3:A5400").Copy \_

Destination:=Worksheets("Sheet5").Range("A1")

End Sub