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ภาคผนวก

ภาคผนวก ก

คุณสมบัติของกังหันก๊าซโรงไฟฟ้าน้ำพอง

คุณสมบัติของกังหันก๊าซโรงไฟฟ้าน้ำพอง

Gas turbine ที่โรงไฟฟ้าน้ำพองใช้คือรุ่น MW-701D ผลิตโดยบริษัท Mitsubishi Heavy Industry ซึ่งสามารถผลิตกระแสไฟฟ้าได้120 MW จำนวน 4 เครื่องคือ GT11, GT12, GT21, GT22 (โดยแบ่งเป็น Block1 คือ GT11+ GT12 และ Block2 คือ GT21+GT22) โดยมีคุณสมบัติดังนี้

ตารางที่ ก(1) คุณสมบัติของ Gas turbine รุ่น MW-701D

อุปกรณ์	รายการ	รายละเอียด
Compressor	จำนวน stage	19
	อัตราส่วนความดัน	14:1
	อัตราการไหลของอากาศ	443 kg/s
Turbine	จำนวน stage	4
	อุณหภูมิของแก๊ส	1154°C
	พลังงานสุทธิ	120 MW
Combustor	ชนิดและหมายเลข	can type หมายเลข 18
	ระบบการจุดระเบิด	จุดระเบิดด้วยประกายไฟ
	เชื้อเพลิง	น้ำมัน ถ่าน และ ก๊าซธรรมชาติ
Rotor	ชนิด	มี bearing รองรับ 2 ชุด
	ความเร็ว	3000 rpm
	ความยาวทั้งหมด	9.9 เมตร

ภาคผนวก ข

**ตัวอย่างโครงสร้างภาษาของโปรแกรมเพื่อกำหนดแผนที่เหมาะสมในการทำความสะอาด
คอมพิวเตอร์และวิธีการใช้งานโปรแกรม**

1. โครงสร้างภาษาของโปรแกรมเพื่อกำหนดแผนที่เหมาะสมในการทำความสะอาดคอมเพรสเซอร์เครื่องกังหันก๊าซ GT11
- 1.1 ฟังก์ชันคำนวณการเพิ่มขึ้นของประสิทธิภาพไอเซนโทรปิคคอมเพรสเซอร์หลังการทำความสะอาด

Function isen1(nd, rd, t, c, beff, beff3)

Select Case rd

Case Is = 1

Select Case t

Case Is = 0

If beff > $(81 - 50.534) / (1 - 0.618)$ Then

 isen1 = 81

Else

 isen1 = beff + $((-0.618 * beff) + 50.534)$

End If

Case Else

Select Case nd

Case 1 To 31

 isen1 = jan(beff, t)

Case 32 To 60

 isen1 = feb(beff, t)

Case 61 To 91

 isen1 = mar(beff, t)

Case 92 To 121

 isen1 = apr(beff, t)

Case 122 To 152

 isen1 = may(beff, t)

Case 153 To 182

 isen1 = jun(beff, t)



Case 183 To 213

 isen1 = jul(beff, t)

Case 214 To 244

 isen1 = aug(beff, t)

Case 245 To 274

 isen1 = sep(beff, t)

Case 275 To 305

 isen1 = oct(beff, t)

Case 306 To 335

 isen1 = nov(beff, t)

Case 336 To 366

 isen1 = dec(beff, t)

End Select

End Select

Case Else

 Select Case c

 Case Is = 0

 Select Case nd

 Case 1 To 31

 isen1 = jan(beff, t)

 Case 32 To 60

 isen1 = feb(beff, t)

 Case 61 To 91

 isen1 = mar(beff, t)

 Case 92 To 121

 isen1 = apr(beff, t)

 Case 122 To 152

 isen1 = may(beff, t)

 Case 153 To 182

 isen1 = jun(beff, t)

Case 183 To 213

isen1 = jul(beff, t)

Case 214 To 244

isen1 = aug(beff, t)

Case 245 To 274

isen1 = sep(beff, t)

Case 275 To 305

isen1 = oct(beff, t)

Case 306 To 335

isen1 = nov(beff, t)

Case 336 To 366

isen1 = dec(beff, t)

End Select

Case Else

isen1 = beff

End Select

End Select

End Function

1.2 ฟังก์ชันคำนวณการลดลงของประสิทธิภาพไอเซนโทรปิคคอมเพรสเซอร์ในแต่ละเดือน

Function jan(beff, t)

If t = 0 Then

jan = beff - ((Worksheets(1).Range("U8").Value) * 8 * 81)

Elseif t = 1 Then

jan = beff - ((Worksheets(1).Range("U8").Value) * 16 * 81)

End If

End Function

Function feb(beff, t)

If t = 0 Then

feb = beff - ((Worksheets(1).Range("U9").Value) * 8 * 81)

ElseIf t = 1 Then

feb = beff - ((Worksheets(1).Range("U9").Value) * 16 * 81)

End If

End Function

Function mar(beff, t)

If t = 0 Then

mar = beff - ((Worksheets(1).Range("U10").Value) * 8 * 81)

ElseIf t = 1 Then

mar = beff - ((Worksheets(1).Range("U10").Value) * 16 * 81)

End If

End Function

Function apr(beff, t)

If t = 0 Then

apr = beff - ((Worksheets(1).Range("U11").Value) * 8 * 81)

ElseIf t = 1 Then

apr = beff - ((Worksheets(1).Range("U11").Value) * 16 * 81)

End If

End Function

Function may(beff, t)

If t = 0 Then

may = beff - ((Worksheets(1).Range("U12").Value) * 8 * 81)

ElseIf t = 1 Then

may = beff - ((Worksheets(1).Range("U12").Value) * 16 * 81)

End If

End Function

Function jun(beff, t)

If t = 0 Then

jun = beff - ((Worksheets(1).Range("U13").Value) * 8 * 81)

```

ElseIf t = 1 Then
    jun = beff - ((Worksheets(1).Range("U13").Value) * 16 * 81)
End If
End Function
Function jul(beff, t)
    If t = 0 Then
        jul = beff - ((Worksheets(1).Range("U14").Value) * 8 * 81)
    ElseIf t = 1 Then
        jul = beff - ((Worksheets(1).Range("U14").Value) * 16 * 81)
    End If
End Function
Function aug(beff, t)
    If t = 0 Then
        aug = beff - ((Worksheets(1).Range("U15").Value) * 8 * 81)
    ElseIf t = 1 Then
        aug = beff - ((Worksheets(1).Range("U15").Value) * 16 * 81)
    End If
End Function
Function sep(beff, t)
    If t = 0 Then
        sep = beff - ((Worksheets(1).Range("U16").Value) * 8 * 81)
    ElseIf t = 1 Then
        sep = beff - ((Worksheets(1).Range("U16").Value) * 16 * 81)
    End If
End Function
Function oct(beff, t)
    If t = 0 Then
        oct = beff - ((Worksheets(1).Range("U17").Value) * 8 * 81)
    ElseIf t = 1 Then
        oct = beff - ((Worksheets(1).Range("U17").Value) * 16 * 81)
    End If
End Function

```

End If

End Function

Function nov(beff, t)

If t = 0 Then

nov = beff - ((Worksheets(1).Range("U18").Value) * 8 * 81)

ElseIf t = 1 Then

nov = beff - ((Worksheets(1).Range("U18").Value) * 16 * 81)

End If

End Function

Function dec(beff, t)

If t = 0 Then

dec = beff - ((Worksheets(1).Range("U19").Value) * 8 * 81)

ElseIf t = 1 Then

dec = beff - ((Worksheets(1).Range("U19").Value) * 16 * 81)

End If

End Function

'default degradation function'

Sub degraddefault0()

Dim strValueMsg As String

With ActiveWorkbook

strValueMsg = MsgBox("Back to default value?", 1 + 48, "GT11")

If strValueMsg = 1 Then

Worksheets(1).Range("U8").Value = 0.00001

Worksheets(1).Range("U9").Value = 0.0000143333

Worksheets(1).Range("U10").Value = 0.000016667

Worksheets(1).Range("U11").Value = 0.000015

Worksheets(1).Range("U12").Value = 0.00000283333

Worksheets(1).Range("U13").Value = 0.00000195

Worksheets(1).Range("U14").Value = 0.0000035


```

Worksheets(1).Range("U15").Value = 0.000003
Worksheets(1).Range("U16").Value = 0.0000079
Worksheets(1).Range("U17").Value = 0.00000866667
Worksheets(1).Range("U18").Value = 0.0000051
Worksheets(1).Range("U19").Value = 0.0000285
strValueMsg = MsgBox("Back to default value completed!", 0 + 64, "GT11")
ElseIf strValueMsg = 2 Then
strValueMsg = MsgBox("No changing!", 0 + 64, "GT11")
End If
End With
End Sub

```

1.3 ฟังก์ชันคำนวณหา Heat rate

```

Function heat1(load, c, eff)
Select Case c
Case Is = 0
    heat1 = 34697.24 - (25.8384 * load) - (254.8038 * eff)
Case Else
    heat1 = 0
End Select
End Function

```

1.4 ฟังก์ชันคำนวณหา Fuel cost

```

Function fuelcost1(fcr, t, heatin)
If t = 0 Then
    fuelcost1 = heatin * 8 * (fcr / (10 ^ 6))
End If
If t = 1 Then
    fuelcost1 = heatin * 16 * (fcr / (10 ^ 6))

```

End If

End Function

1.5 ฟังก์ชันคำนวณหา Cleaning cost

Function cleancost1(t, c, ds, oop, op, nd)

'If 1 < nd < 59 Then

Select Case nd

Case 1 To 59

Select Case ds

Case Is = 1

Select Case c

Case Is = 1

Select Case t

Case Is = 1

cleancost1 = (2890800 * 2) + (2 * (oop + op))

Case Else

cleancost1 = 0

End Select

Case Else

cleancost1 = 0

End Select

Case Else

cleancost1 = 0

End Select

'Elseif 60 < nd < 151 Then

Case 60 To 151

Select Case ds

Case Is = 1

Select Case c

Case Is = 1

Select Case t

Case Is = 1

cleancost1 = (2890800 * 2) + (2 * (oop + op))

Case Else

cleancost1 = 0

End Select

Case Else

cleancost1 = 0

End Select

Case Else

cleancost1 = 0

End Select

'ElseIf 152 < nd < 304 Then

Case 152 To 304

Select Case ds

Case Is = 1

Select Case c

Case Is = 1

Select Case t

Case Is = 1

cleancost1 = (2890800 * 2) + (2 * (oop + op))

Case Else

cleancost1 = 0

End Select

Case Else

cleancost1 = 0

End Select

Case Else

cleancost1 = 0

End Select

'ElseIf 305 < nd < 366 Then

Case 305 To 366

Select Case ds

Case Is = 1

Select Case c

Case Is = 1

Select Case t

Case Is = 1

cleancost1 = (2890800 * 2) + (2 * (oop + op))

Case Else

cleancost1 = 0

End Select

Case Else

cleancost1 = 0

End Select

Case Else

cleancost1 = 0

End Select

End Select

End Function

Function daycount1(c, d, dd)

If c = 0 Then

daycount1 = d + 1

ElseIf c = 1 Then

If dd = 1 Then

daycount1 = d + 1

Else

daycount1 = 1

End If

End If

End Function

Function dayclean1(d)

 If d = 1 Then

 dayclean1 = 1

 ElseIf d = 7 Then

 dayclean1 = 1

 Else

 dayclean1 = 0

End If

End Function

1.6 ฟังก์ชันคำนวณผลประหยัจากรูปแบบการทำความสะอาดตั้งแต่ 1 ถึง 12 ครั้งต่อปี

Sub weekcleanset0()

Dim strValueMsg As String

With ActiveWorkbook

Worksheets(1).Range("I6:I737").Value = 0

Worksheets(5).Range("C2:C14").Value = Worksheets(1).Range("P735").Value

Worksheets(5).Range("D2").Value = Worksheets(1).Range("P735").Value

Worksheets(6).Range("D2:D68").Value = Worksheets(1).Range("P735").Value

Worksheets(6).Range("E2").Value = Worksheets(1).Range("P735").Value

Worksheets(7).Range("E2:E222").Value = Worksheets(1).Range("P735").Value

Worksheets(7).Range("F2").Value = Worksheets(1).Range("P735").Value

Worksheets(8).Range("F2:F497").Value = Worksheets(1).Range("P735").Value

Worksheets(8).Range("G2").Value = Worksheets(1).Range("P735").Value

Worksheets(9).Range("G2:G794").Value = Worksheets(1).Range("P735").Value

Worksheets(9).Range("H2").Value = Worksheets(1).Range("P735").Value

Worksheets(10).Range("H2:H926").Value = Worksheets(1).Range("P735").Value

Worksheets(10).Range("I2").Value = Worksheets(1).Range("P735").Value

```

Worksheets(11).Range("I2:I794").Value = Worksheets(1).Range("P735").Value
Worksheets(11).Range("J2").Value = Worksheets(1).Range("P735").Value
Worksheets(12).Range("J2:J497").Value = Worksheets(1).Range("P735").Value
Worksheets(12).Range("K2").Value = Worksheets(1).Range("P735").Value
Worksheets(13).Range("K2:K222").Value = Worksheets(1).Range("P735").Value
Worksheets(13).Range("L2").Value = Worksheets(1).Range("P735").Value
Worksheets(14).Range("L2:L68").Value = Worksheets(1).Range("P735").Value
Worksheets(14).Range("M2").Value = Worksheets(1).Range("P735").Value
Worksheets(15).Range("M2:M14").Value = Worksheets(1).Range("P735").Value
Worksheets(15).Range("N2").Value = Worksheets(1).Range("P735").Value
Worksheets(16).Range("N2:N3").Value = Worksheets(1).Range("P735").Value
Worksheets(16).Range("O2").Value = Worksheets(1).Range("P735").Value
Worksheets(17).Range("O2:O14").Value = Worksheets(1).Range("P735").Value
Worksheets(17).Range("P2").Value = Worksheets(1).Range("P735").Value

strValueMsg = MsgBox("Set no cleaning completed!", 0 + 64, "GT11")

End With

End Sub

Sub weekclean1()

Dim i As Integer
Dim j As Integer
Dim strValueMsg As String

With ActiveWorkbook

'row

For i = 1 To 12

'column

j = 0

For j = 0 To 1

If Worksheets(5).Cells(2 + i, 2 + j).Value = 1 Then

Worksheets(1).Range("I62:I65").Value = 1

ElseIf Worksheets(5).Cells(2 + i, 2 + j).Value = 2 Then

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```

Worksheets(1).Range("I118:I121").Value = 1
ElseIf Worksheets(5).Cells(2 + i, 2 + j).Value = 3 Then
    Worksheets(1).Range("I174:I177").Value = 1
ElseIf Worksheets(5).Cells(2 + i, 2 + j).Value = 4 Then
    Worksheets(1).Range("I230:I233").Value = 1
ElseIf Worksheets(5).Cells(2 + i, 2 + j).Value = 5 Then
    Worksheets(1).Range("I300:I303").Value = 1
ElseIf Worksheets(5).Cells(2 + i, 2 + j).Value = 6 Then
    Worksheets(1).Range("I356:I359").Value = 1
ElseIf Worksheets(5).Cells(2 + i, 2 + j).Value = 7 Then
    Worksheets(1).Range("I426:I429").Value = 1
ElseIf Worksheets(5).Cells(2 + i, 2 + j).Value = 8 Then
    Worksheets(1).Range("I482:I485").Value = 1
ElseIf Worksheets(5).Cells(2 + i, 2 + j).Value = 9 Then
    Worksheets(1).Range("I538:I541").Value = 1
ElseIf Worksheets(5).Cells(2 + i, 2 + j).Value = 10 Then
    Worksheets(1).Range("I608:I611").Value = 1
ElseIf Worksheets(5).Cells(2 + i, 2 + j).Value = 11 Then
    Worksheets(1).Range("I664:I667").Value = 1
ElseIf Worksheets(5).Cells(2 + i, 2 + j).Value = 12 Then
    Worksheets(1).Range("I720:I723").Value = 1
End If

'Next j

'copy value to sheets
Worksheets(5).Cells(2 + i, 4).Value = Worksheets(1).Range("P735").Value
Worksheets(5).Cells(2 + i, 6).Value = Worksheets(1).Range("R735").Value

'Clear cell before next row

'1
    Worksheets(1).Range("I6:I737").Value = 0

'end clear cells

```



```

Next i

'next row

strValueMsg = MsgBox("1 Time calculation completed!", 0 + 64, "GT11")

End With

End Sub

Sub weekclean2()

Dim i As Integer

Dim j As Integer

Dim strValueMsg As String

With ActiveWorkbook

'row

For i = 1 To 66

'column

For j = 0 To 1

If Worksheets(6).Cells(2 + i, 2 + j).Value = 1 Then

Worksheets(1).Range("I62:I65").Value = 1

ElseIf Worksheets(6).Cells(2 + i, 2 + j).Value = 2 Then

Worksheets(1).Range("I118:I121").Value = 1

ElseIf Worksheets(6).Cells(2 + i, 2 + j).Value = 3 Then

Worksheets(1).Range("I174:I177").Value = 1

ElseIf Worksheets(6).Cells(2 + i, 2 + j).Value = 4 Then

Worksheets(1).Range("I230:I233").Value = 1

ElseIf Worksheets(6).Cells(2 + i, 2 + j).Value = 5 Then

Worksheets(1).Range("I300:I303").Value = 1

ElseIf Worksheets(6).Cells(2 + i, 2 + j).Value = 6 Then

Worksheets(1).Range("I356:I359").Value = 1

ElseIf Worksheets(6).Cells(2 + i, 2 + j).Value = 7 Then

Worksheets(1).Range("I426:I429").Value = 1

ElseIf Worksheets(6).Cells(2 + i, 2 + j).Value = 8 Then

Worksheets(1).Range("I482:I485").Value = 1

```



```

ElseIf Worksheets(6).Cells(2 + i, 2 + j).Value = 9 Then
    Worksheets(1).Range("I538:I541").Value = 1
ElseIf Worksheets(6).Cells(2 + i, 2 + j).Value = 10 Then
    Worksheets(1).Range("I608:I611").Value = 1

ElseIf Worksheets(6).Cells(2 + i, 2 + j).Value = 11 Then
    Worksheets(1).Range("I664:I667").Value = 1
ElseIf Worksheets(6).Cells(2 + i, 2 + j).Value = 12 Then
    Worksheets(1).Range("I720:I723").Value = 1
End If
Next j

'copy value to sheets
Worksheets(6).Cells(2 + i, 5).Value = Worksheets(1).Range("P735").Value
Worksheets(6).Cells(2 + i, 7).Value = Worksheets(1).Range("R735").Value
'Clear cell before next row
    '1
    Worksheets(1).Range("I6:I737").Value = 0
'end clear cells
Next i

'next row
strValueMsg = MsgBox("2 Time calculation completed!", 0 + 64, "GT11")
End With
End Sub

Sub weekclean3()
Dim i As Integer
Dim j As Integer
Dim strValueMsg As String
With ActiveWorkbook
'row
    For i = 1 To 220

```

'column

For j = 0 To 2

If Worksheets(7).Cells(2 + i, 2 + j).Value = 1 Then

Worksheets(1).Range("I62:I65").Value = 1

ElseIf Worksheets(7).Cells(2 + i, 2 + j).Value = 2 Then

Worksheets(1).Range("I118:I121").Value = 1

ElseIf Worksheets(7).Cells(2 + i, 2 + j).Value = 3 Then

Worksheets(1).Range("I174:I177").Value = 1

ElseIf Worksheets(7).Cells(2 + i, 2 + j).Value = 4 Then

Worksheets(1).Range("I230:I233").Value = 1

ElseIf Worksheets(7).Cells(2 + i, 2 + j).Value = 5 Then

Worksheets(1).Range("I300:I303").Value = 1

ElseIf Worksheets(7).Cells(2 + i, 2 + j).Value = 6 Then

Worksheets(1).Range("I356:I359").Value = 1

ElseIf Worksheets(7).Cells(2 + i, 2 + j).Value = 7 Then

Worksheets(1).Range("I426:I429").Value = 1

ElseIf Worksheets(7).Cells(2 + i, 2 + j).Value = 8 Then

Worksheets(1).Range("I482:I485").Value = 1

ElseIf Worksheets(7).Cells(2 + i, 2 + j).Value = 9 Then

Worksheets(1).Range("I538:I541").Value = 1

ElseIf Worksheets(7).Cells(2 + i, 2 + j).Value = 10 Then

Worksheets(1).Range("I608:I611").Value = 1

ElseIf Worksheets(7).Cells(2 + i, 2 + j).Value = 11 Then

Worksheets(1).Range("I664:I667").Value = 1

ElseIf Worksheets(7).Cells(2 + i, 2 + j).Value = 12 Then

Worksheets(1).Range("I720:I723").Value = 1

End If

Next j

'copy value to sheets

Worksheets(7).Cells(2 + i, 6).Value = Worksheets(1).Range("P735").Value

Worksheets(7).Cells(2 + i, 8).Value = Worksheets(1).Range("R735").Value

'Clear cell before next row

'1

Worksheets(1).Range("I6:I737").Value = 0

'end clear cells

Next i

'next row

strValueMsg = MsgBox("3 Time calculation completed!", 0 + 64, "GT11")

End With

End Sub

Sub weekclean4()

Dim i As Integer

Dim j As Integer

Dim strValueMsg As String

With ActiveWorkbook

'row

For i = 1 To 495

'column

For j = 0 To 3

If Worksheets(8).Cells(2 + i, 2 + j).Value = 1 Then

Worksheets(1).Range("I62:I65").Value = 1

ElseIf Worksheets(8).Cells(2 + i, 2 + j).Value = 2 Then

Worksheets(1).Range("I118:I121").Value = 1

ElseIf Worksheets(8).Cells(2 + i, 2 + j).Value = 3 Then

Worksheets(1).Range("I174:I177").Value = 1

ElseIf Worksheets(8).Cells(2 + i, 2 + j).Value = 4 Then

Worksheets(1).Range("I230:I233").Value = 1

ElseIf Worksheets(8).Cells(2 + i, 2 + j).Value = 5 Then

Worksheets(1).Range("I300:I303").Value = 1



```

ElseIf Worksheets(8).Cells(2 + i, 2 + j).Value = 6 Then
    Worksheets(1).Range("I356:I359").Value = 1
ElseIf Worksheets(8).Cells(2 + i, 2 + j).Value = 7 Then
    Worksheets(1).Range("I426:I429").Value = 1
ElseIf Worksheets(8).Cells(2 + i, 2 + j).Value = 8 Then
    Worksheets(1).Range("I482:I485").Value = 1
ElseIf Worksheets(8).Cells(2 + i, 2 + j).Value = 9 Then
    Worksheets(1).Range("I538:I541").Value = 1
ElseIf Worksheets(8).Cells(2 + i, 2 + j).Value = 10 Then
    Worksheets(1).Range("I608:I611").Value = 1
ElseIf Worksheets(8).Cells(2 + i, 2 + j).Value = 11 Then
    Worksheets(1).Range("I664:I667").Value = 1
ElseIf Worksheets(8).Cells(2 + i, 2 + j).Value = 12 Then
    Worksheets(1).Range("I720:I723").Value = 1
End If
Next j

'copy value to sheets
Worksheets(8).Cells(2 + i, 7).Value = Worksheets(1).Range("P735").Value
Worksheets(8).Cells(2 + i, 9).Value = Worksheets(1).Range("R735").Value
'Clear cell before next row
    '1
    Worksheets(1).Range("I6:I737").Value = 0
'end clear cells
Next i
'next row
strValueMsg = MsgBox("4 Time calculation completed!", 0 + 64, "GT11")
End With
End Sub
Sub weekclean5()
Dim i As Integer

```

Dim j As Integer

Dim strValueMsg As String

With ActiveWorkbook

'row

For i = 1 To 792

'column

For j = 0 To 4

If Worksheets(9).Cells(2 + i, 2 + j).Value = 1 Then

Worksheets(1).Range("I62:I65").Value = 1

ElseIf Worksheets(9).Cells(2 + i, 2 + j).Value = 2 Then

Worksheets(1).Range("I118:I121").Value = 1

ElseIf Worksheets(9).Cells(2 + i, 2 + j).Value = 3 Then

Worksheets(1).Range("I174:I177").Value = 1

ElseIf Worksheets(9).Cells(2 + i, 2 + j).Value = 4 Then

Worksheets(1).Range("I230:I233").Value = 1

ElseIf Worksheets(9).Cells(2 + i, 2 + j).Value = 5 Then

Worksheets(1).Range("I300:I303").Value = 1

ElseIf Worksheets(9).Cells(2 + i, 2 + j).Value = 6 Then

Worksheets(1).Range("I356:I359").Value = 1

ElseIf Worksheets(9).Cells(2 + i, 2 + j).Value = 7 Then

Worksheets(1).Range("I426:I429").Value = 1

ElseIf Worksheets(9).Cells(2 + i, 2 + j).Value = 8 Then

Worksheets(1).Range("I482:I485").Value = 1

ElseIf Worksheets(9).Cells(2 + i, 2 + j).Value = 9 Then

Worksheets(1).Range("I538:I541").Value = 1

ElseIf Worksheets(9).Cells(2 + i, 2 + j).Value = 10 Then

Worksheets(1).Range("I608:I611").Value = 1

ElseIf Worksheets(9).Cells(2 + i, 2 + j).Value = 11 Then

Worksheets(1).Range("I664:I667").Value = 1

```

ElseIf Worksheets(9).Cells(2 + i, 2 + j).Value = 12 Then
    Worksheets(1).Range("I720:I723").Value = 1
End If
Next j
'copy value to sheets
Worksheets(9).Cells(2 + i, 8).Value = Worksheets(1).Range("P735").Value
Worksheets(9).Cells(2 + i, 10).Value = Worksheets(1).Range("R735").Value
'Clear cell before next row
'1
    Worksheets(1).Range("I6:I737").Value = 0
'end clear cells
Next i
'next row
strValueMsg = MsgBox("5 Time calculation completed!", 0 + 64, "GT11")
End With
End Sub
Sub weekclean6()
Dim i As Integer
Dim j As Integer
Dim strValueMsg As String
With ActiveWorkbook
'row
    For i = 1 To 924
        'column
        For j = 0 To 5
            If Worksheets(10).Cells(2 + i, 2 + j).Value = 1 Then
                Worksheets(1).Range("I62:I65").Value = 1
            ElseIf Worksheets(10).Cells(2 + i, 2 + j).Value = 2 Then
                Worksheets(1).Range("I118:I121").Value = 1
            ElseIf Worksheets(10).Cells(2 + i, 2 + j).Value = 3 Then

```



```

Worksheets(1).Range("I174:I177").Value = 1
ElseIf Worksheets(10).Cells(2 + i, 2 + j).Value = 4 Then
    Worksheets(1).Range("I230:I233").Value = 1
ElseIf Worksheets(10).Cells(2 + i, 2 + j).Value = 5 Then
    Worksheets(1).Range("I300:I303").Value = 1
ElseIf Worksheets(10).Cells(2 + i, 2 + j).Value = 6 Then
    Worksheets(1).Range("I356:I359").Value = 1
ElseIf Worksheets(10).Cells(2 + i, 2 + j).Value = 7 Then
    Worksheets(1).Range("I426:I429").Value = 1
ElseIf Worksheets(10).Cells(2 + i, 2 + j).Value = 8 Then
    Worksheets(1).Range("I482:I485").Value = 1
ElseIf Worksheets(10).Cells(2 + i, 2 + j).Value = 9 Then
    Worksheets(1).Range("I538:I541").Value = 1
ElseIf Worksheets(10).Cells(2 + i, 2 + j).Value = 10 Then
    Worksheets(1).Range("I608:I611").Value = 1
ElseIf Worksheets(10).Cells(2 + i, 2 + j).Value = 11 Then
    Worksheets(1).Range("I664:I667").Value = 1
ElseIf Worksheets(10).Cells(2 + i, 2 + j).Value = 12 Then
    Worksheets(1).Range("I720:I723").Value = 1
End If
Next j

'copy value to sheets
Worksheets(10).Cells(2 + i, 9).Value = Worksheets(1).Range("P735").Value
Worksheets(10).Cells(2 + i, 11).Value = Worksheets(1).Range("R735").Value
'Clear cell before next row
    '1
    Worksheets(1).Range("I6:I737").Value = 0
'end clear cells
Next i
'next row

```

```

strValueMsg = MsgBox("6 Time calculation completed!", 0 + 64, "GT11")
End With
End Sub

Sub weekclean7()
Dim i As Integer
Dim j As Integer
Dim strValueMsg As String
With ActiveWorkbook
'row
For i = 1 To 792
'column
For j = 0 To 6
If Worksheets(11).Cells(2 + i, 2 + j).Value = 1 Then
Worksheets(1).Range("I62:I65").Value = 1
ElseIf Worksheets(11).Cells(2 + i, 2 + j).Value = 2 Then
Worksheets(1).Range("I118:I121").Value = 1
ElseIf Worksheets(11).Cells(2 + i, 2 + j).Value = 3 Then
Worksheets(1).Range("I174:I177").Value = 1
ElseIf Worksheets(11).Cells(2 + i, 2 + j).Value = 4 Then
Worksheets(1).Range("I230:I233").Value = 1
ElseIf Worksheets(11).Cells(2 + i, 2 + j).Value = 5 Then
Worksheets(1).Range("I300:I303").Value = 1
ElseIf Worksheets(11).Cells(2 + i, 2 + j).Value = 6 Then
Worksheets(1).Range("I356:I359").Value = 1
ElseIf Worksheets(11).Cells(2 + i, 2 + j).Value = 7 Then
Worksheets(1).Range("I426:I429").Value = 1
ElseIf Worksheets(11).Cells(2 + i, 2 + j).Value = 8 Then
Worksheets(1).Range("I482:I485").Value = 1
ElseIf Worksheets(11).Cells(2 + i, 2 + j).Value = 9 Then

```



```

Worksheets(1).Range("I538:I541").Value = 1
Elseif Worksheets(11).Cells(2 + i, 2 + j).Value = 10 Then
    Worksheets(1).Range("I608:I611").Value = 1
Elseif Worksheets(11).Cells(2 + i, 2 + j).Value = 11 Then
    Worksheets(1).Range("I664:I667").Value = 1
Elseif Worksheets(11).Cells(2 + i, 2 + j).Value = 12 Then
    Worksheets(1).Range("I720:I723").Value = 1
End If
Next j

'copy value to sheets
Worksheets(11).Cells(2 + i, 10).Value = Worksheets(1).Range("P735").Value
Worksheets(11).Cells(2 + i, 12).Value = Worksheets(1).Range("R735").Value
'Clear cell before next row
    'I
    Worksheets(1).Range("I6:I737").Value = 0
'end clear cells
Next i
'next row
strValueMsg = MsgBox("7 Time calculation completed!", 0 + 64, "GT11")
End With
End Sub
Sub weekclean8()
Dim i As Integer
Dim j As Integer
Dim strValueMsg As String
With ActiveWorkbook
'row
    For i = 1 To 495
        'column
        For j = 0 To 7

```

```

If Worksheets(12).Cells(2 + i, 2 + j).Value = 1 Then
    Worksheets(1).Range("I62:I65").Value = 1
ElseIf Worksheets(12).Cells(2 + i, 2 + j).Value = 2 Then
    Worksheets(1).Range("I118:I121").Value = 1
ElseIf Worksheets(12).Cells(2 + i, 2 + j).Value = 3 Then
    Worksheets(1).Range("I174:I177").Value = 1
ElseIf Worksheets(12).Cells(2 + i, 2 + j).Value = 4 Then
    Worksheets(1).Range("I230:I233").Value = 1
ElseIf Worksheets(12).Cells(2 + i, 2 + j).Value = 5 Then
    Worksheets(1).Range("I300:I303").Value = 1
ElseIf Worksheets(12).Cells(2 + i, 2 + j).Value = 6 Then
    Worksheets(1).Range("I356:I359").Value = 1
ElseIf Worksheets(12).Cells(2 + i, 2 + j).Value = 7 Then
    Worksheets(1).Range("I426:I429").Value = 1
ElseIf Worksheets(12).Cells(2 + i, 2 + j).Value = 8 Then
    Worksheets(1).Range("I482:I485").Value = 1
ElseIf Worksheets(12).Cells(2 + i, 2 + j).Value = 9 Then
    Worksheets(1).Range("I538:I541").Value = 1
ElseIf Worksheets(12).Cells(2 + i, 2 + j).Value = 10 Then
    Worksheets(1).Range("I608:I611").Value = 1
ElseIf Worksheets(12).Cells(2 + i, 2 + j).Value = 11 Then
    Worksheets(1).Range("I664:I667").Value = 1
ElseIf Worksheets(12).Cells(2 + i, 2 + j).Value = 12 Then
    Worksheets(1).Range("I720:I723").Value = 1
End If

```

```
Next j
```

```
'copy value to sheets
```

```
Worksheets(12).Cells(2 + i, 11).Value = Worksheets(1).Range("P735").Value
```

```
Worksheets(12).Cells(2 + i, 13).Value = Worksheets(1).Range("R735").Value
```

```
'Clear cell before next row
```

```

'1
    Worksheets(1).Range("I6:I737").Value = 0
'end clear cells
Next i
'next row
strValueMsg = MsgBox("8 Time calculation completed!", 0 + 64, "GT11")
End With
End Sub
Sub weekclean9()
Dim i As Integer
Dim j As Integer
Dim strValueMsg As String
With ActiveWorkbook
'row
    For i = 1 To 220
        'column
        For j = 0 To 8
            If Worksheets(13).Cells(2 + i, 2 + j).Value = 1 Then
                Worksheets(1).Range("I62:I65").Value = 1
            ElseIf Worksheets(13).Cells(2 + i, 2 + j).Value = 2 Then
                Worksheets(1).Range("I118:I121").Value = 1
            ElseIf Worksheets(13).Cells(2 + i, 2 + j).Value = 3 Then
                Worksheets(1).Range("I174:I177").Value = 1
            ElseIf Worksheets(13).Cells(2 + i, 2 + j).Value = 4 Then
                Worksheets(1).Range("I230:I233").Value = 1
            ElseIf Worksheets(13).Cells(2 + i, 2 + j).Value = 5 Then
                Worksheets(1).Range("I300:I303").Value = 1
            ElseIf Worksheets(13).Cells(2 + i, 2 + j).Value = 6 Then
                Worksheets(1).Range("I356:I359").Value = 1
            ElseIf Worksheets(13).Cells(2 + i, 2 + j).Value = 7 Then

```

```

Worksheets(1).Range("I426:I429").Value = 1
Elseif Worksheets(13).Cells(2 + i, 2 + j).Value = 8 Then
    Worksheets(1).Range("I482:I485").Value = 1
Elseif Worksheets(13).Cells(2 + i, 2 + j).Value = 9 Then
    Worksheets(1).Range("I538:I541").Value = 1
Elseif Worksheets(13).Cells(2 + i, 2 + j).Value = 10 Then
    Worksheets(1).Range("I608:I611").Value = 1
Elseif Worksheets(13).Cells(2 + i, 2 + j).Value = 11 Then
    Worksheets(1).Range("I664:I667").Value = 1
Elseif Worksheets(13).Cells(2 + i, 2 + j).Value = 12 Then
    Worksheets(1).Range("I720:I723").Value = 1
End If

Next j

'copy value to sheets
Worksheets(13).Cells(2 + i, 12).Value = Worksheets(1).Range("P735").Value
Worksheets(13).Cells(2 + i, 14).Value = Worksheets(1).Range("R735").Value
'Clear cell before next row
'1
    Worksheets(1).Range("I6:I737").Value = 0
'end clear cells

Next i

'next row
strValueMsg = MsgBox("9 Time calculation completed!", 0 + 64, "GT11")

End With

End Sub

Sub weekclean10()

Dim i As Integer

Dim j As Integer

Dim strValueMsg As String

With ActiveWorkbook

```

'row

For i = 1 To 66

'column

For j = 0 To 9

If Worksheets(14).Cells(2 + i, 2 + j).Value = 1 Then

Worksheets(1).Range("I62:I65").Value = 1

ElseIf Worksheets(14).Cells(2 + i, 2 + j).Value = 2 Then

Worksheets(1).Range("I118:I121").Value = 1

ElseIf Worksheets(14).Cells(2 + i, 2 + j).Value = 3 Then

Worksheets(1).Range("I174:I177").Value = 1

ElseIf Worksheets(14).Cells(2 + i, 2 + j).Value = 4 Then

Worksheets(1).Range("I230:I233").Value = 1

ElseIf Worksheets(14).Cells(2 + i, 2 + j).Value = 5 Then

Worksheets(1).Range("I300:I303").Value = 1

ElseIf Worksheets(14).Cells(2 + i, 2 + j).Value = 6 Then

Worksheets(1).Range("I356:I359").Value = 1

ElseIf Worksheets(14).Cells(2 + i, 2 + j).Value = 7 Then

Worksheets(1).Range("I426:I429").Value = 1

ElseIf Worksheets(14).Cells(2 + i, 2 + j).Value = 8 Then

Worksheets(1).Range("I482:I485").Value = 1

ElseIf Worksheets(14).Cells(2 + i, 2 + j).Value = 9 Then

Worksheets(1).Range("I538:I541").Value = 1

ElseIf Worksheets(14).Cells(2 + i, 2 + j).Value = 10 Then

Worksheets(1).Range("I608:I611").Value = 1

ElseIf Worksheets(14).Cells(2 + i, 2 + j).Value = 11 Then

Worksheets(1).Range("I664:I667").Value = 1

ElseIf Worksheets(14).Cells(2 + i, 2 + j).Value = 12 Then

Worksheets(1).Range("I720:I723").Value = 1

End If

Next j

```

'copy value to sheets
Worksheets(14).Cells(2 + i, 13).Value = Worksheets(1).Range("P735").Value
Worksheets(14).Cells(2 + i, 15).Value = Worksheets(1).Range("R735").Value
'Clear cell before next row
    '1
        Worksheets(1).Range("I6:I737").Value = 0
'end clear cells
Next i
'next row
strValueMsg = MsgBox("10 Time calculation completed!", 0 + 64, "GT11")
End With
End Sub
Sub weekclean11()
Dim i As Integer
Dim j As Integer
Dim strValueMsg As String
With ActiveWorkbook
'row
    For i = 1 To 12
        'column
            For j = 0 To 10
                If Worksheets(15).Cells(2 + i, 2 + j).Value = 1 Then
                    Worksheets(1).Range("I62:I65").Value = 1
                ElseIf Worksheets(15).Cells(2 + i, 2 + j).Value = 2 Then
                    Worksheets(1).Range("I118:I121").Value = 1
                ElseIf Worksheets(15).Cells(2 + i, 2 + j).Value = 3 Then
                    Worksheets(1).Range("I174:I177").Value = 1
                ElseIf Worksheets(15).Cells(2 + i, 2 + j).Value = 4 Then
                    Worksheets(1).Range("I230:I233").Value = 1
                ElseIf Worksheets(15).Cells(2 + i, 2 + j).Value = 5 Then

```




```

Worksheets(1).Range("I300:I303").Value = 1
ElseIf Worksheets(15).Cells(2 + i, 2 + j).Value = 6 Then
    Worksheets(1).Range("I356:I359").Value = 1
ElseIf Worksheets(15).Cells(2 + i, 2 + j).Value = 7 Then
    Worksheets(1).Range("I426:I429").Value = 1
ElseIf Worksheets(15).Cells(2 + i, 2 + j).Value = 8 Then
    Worksheets(1).Range("I482:I485").Value = 1
ElseIf Worksheets(15).Cells(2 + i, 2 + j).Value = 9 Then
    Worksheets(1).Range("I538:I541").Value = 1
ElseIf Worksheets(15).Cells(2 + i, 2 + j).Value = 10 Then
    Worksheets(1).Range("I608:I611").Value = 1
ElseIf Worksheets(15).Cells(2 + i, 2 + j).Value = 11 Then
    Worksheets(1).Range("I664:I667").Value = 1
ElseIf Worksheets(15).Cells(2 + i, 2 + j).Value = 12 Then
    Worksheets(1).Range("I720:I723").Value = 1
End If
Next j

'copy value to sheets
Worksheets(15).Cells(2 + i, 14).Value = Worksheets(1).Range("P735").Value
Worksheets(15).Cells(2 + i, 16).Value = Worksheets(1).Range("R735").Value

'Clear cell before next row
'1
    Worksheets(1).Range("I6:I737").Value = 0

'end clear cells
Next i

'next row
strValueMsg = MsgBox("11 Time calculation completed!", 0 + 64, "GT11")
End With
End Sub
Sub weekclean12()

```


Dim i As Integer

Dim j As Integer

Dim strValueMsg As String

With ActiveWorkbook

'row

i = 1

'For i = 1 To

'column

For j = 0 To 11

If Worksheets(16).Cells(2 + i, 2 + j).Value = 1 Then

Worksheets(1).Range("I62:I65").Value = 1

ElseIf Worksheets(16).Cells(2 + i, 2 + j).Value = 2 Then

Worksheets(1).Range("I118:I121").Value = 1

ElseIf Worksheets(16).Cells(2 + i, 2 + j).Value = 3 Then

Worksheets(1).Range("I174:I177").Value = 1

ElseIf Worksheets(16).Cells(2 + i, 2 + j).Value = 4 Then

Worksheets(1).Range("I230:I233").Value = 1

ElseIf Worksheets(16).Cells(2 + i, 2 + j).Value = 5 Then

Worksheets(1).Range("I300:I303").Value = 1

ElseIf Worksheets(16).Cells(2 + i, 2 + j).Value = 6 Then

Worksheets(1).Range("I356:I359").Value = 1

ElseIf Worksheets(16).Cells(2 + i, 2 + j).Value = 7 Then

Worksheets(1).Range("I426:I429").Value = 1

ElseIf Worksheets(16).Cells(2 + i, 2 + j).Value = 8 Then

Worksheets(1).Range("I482:I485").Value = 1

ElseIf Worksheets(16).Cells(2 + i, 2 + j).Value = 9 Then

Worksheets(1).Range("I538:I541").Value = 1

ElseIf Worksheets(16).Cells(2 + i, 2 + j).Value = 10 Then

Worksheets(1).Range("I608:I611").Value = 1

```

ElseIf Worksheets(16).Cells(2 + i, 2 + j).Value = 11 Then
    Worksheets(1).Range("I664:I667").Value = 1
ElseIf Worksheets(16).Cells(2 + i, 2 + j).Value = 12 Then
    Worksheets(1).Range("I720:I723").Value = 1
End If
Next j
'copy value to sheets
Worksheets(16).Cells(2 + i, 15).Value = Worksheets(1).Range("P735").Value
Worksheets(16).Cells(2 + i, 17).Value = Worksheets(1).Range("R735").Value
'Clear cell before next row
'1
    Worksheets(1).Range("I6:I737").Value = 0
'end clear cells
'Next i
'next row
strValueMsg = MsgBox("12 Time calculation completed!", 0 + 64, "GT11")
End With
End Sub
Sub onebuttonservice()
Dim i1, i2, i3, i4, i5, i6, i7, i8, i9, i10, i11, i12 As Integer
Dim j1, j2, j3, j4, j5, j6, j7, j8, j9, j10, j11, j12 As Integer
Dim strValueMsg As String
With ActiveWorkbook
'//////////1time
For i1 = 1 To 12
    'column
    j1 = 0
    'For j = 0 To 1
        If Worksheets(5).Cells(2 + i1, 2 + j1).Value = 1 Then
            Worksheets(1).Range("I62:I65").Value = 1

```

```
ElseIf Worksheets(5).Cells(2 + i1, 2 + j1).Value = 2 Then
```

```
    Worksheets(1).Range("I118:I121").Value = 1
```

```
ElseIf Worksheets(5).Cells(2 + i1, 2 + j1).Value = 3 Then
```

```
    Worksheets(1).Range("I174:I177").Value = 1
```

```
ElseIf Worksheets(5).Cells(2 + i1, 2 + j1).Value = 4 Then
```

```
    Worksheets(1).Range("I230:I233").Value = 1
```

```
ElseIf Worksheets(5).Cells(2 + i1, 2 + j1).Value = 5 Then
```

```
    Worksheets(1).Range("I300:I303").Value = 1
```

```
ElseIf Worksheets(5).Cells(2 + i1, 2 + j1).Value = 6 Then
```

```
    Worksheets(1).Range("I356:I359").Value = 1
```

```
ElseIf Worksheets(5).Cells(2 + i1, 2 + j1).Value = 7 Then
```

```
    Worksheets(1).Range("I426:I429").Value = 1
```

```
ElseIf Worksheets(5).Cells(2 + i1, 2 + j1).Value = 8 Then
```

```
    Worksheets(1).Range("I482:I485").Value = 1
```

```
ElseIf Worksheets(5).Cells(2 + i1, 2 + j1).Value = 9 Then
```

```
    Worksheets(1).Range("I538:I541").Value = 1
```

```
ElseIf Worksheets(5).Cells(2 + i1, 2 + j1).Value = 10 Then
```

```
    Worksheets(1).Range("I608:I611").Value = 1
```

```
ElseIf Worksheets(5).Cells(2 + i1, 2 + j1).Value = 11 Then
```

```
    Worksheets(1).Range("I664:I667").Value = 1
```

```
ElseIf Worksheets(5).Cells(2 + i1, 2 + j1).Value = 12 Then
```

```
    Worksheets(1).Range("I720:I723").Value = 1
```

```
End If
```

```
'Next j1
```

```
'copy value to sheets
```

```
Worksheets(5).Cells(2 + i1, 4).Value = Worksheets(1).Range("P735").Value
```

```
Worksheets(5).Cells(2 + i1, 6).Value = Worksheets(1).Range("R735").Value
```

```
'Clear cell before next row
```

```
'1
```

```
Worksheets(1).Range("I6:I737").Value = 0
```

```

'end clear cells

Next i1

'//////////2time

For i2 = 1 To 66

'column

For j2 = 0 To 1

If Worksheets(6).Cells(2 + i2, 2 + j2).Value = 1 Then
    Worksheets(1).Range("I62:I65").Value = 1
ElseIf Worksheets(6).Cells(2 + i2, 2 + j2).Value = 2 Then
    Worksheets(1).Range("I118:I121").Value = 1
ElseIf Worksheets(6).Cells(2 + i2, 2 + j2).Value = 3 Then
    Worksheets(1).Range("I174:I177").Value = 1
ElseIf Worksheets(6).Cells(2 + i2, 2 + j2).Value = 4 Then
    Worksheets(1).Range("I230:I233").Value = 1
ElseIf Worksheets(6).Cells(2 + i2, 2 + j2).Value = 5 Then
    Worksheets(1).Range("I300:I303").Value = 1
ElseIf Worksheets(6).Cells(2 + i2, 2 + j2).Value = 6 Then
    Worksheets(1).Range("I356:I359").Value = 1
ElseIf Worksheets(6).Cells(2 + i2, 2 + j2).Value = 7 Then
    Worksheets(1).Range("I426:I429").Value = 1
ElseIf Worksheets(6).Cells(2 + i2, 2 + j2).Value = 8 Then
    Worksheets(1).Range("I482:I485").Value = 1
ElseIf Worksheets(6).Cells(2 + i2, 2 + j2).Value = 9 Then
    Worksheets(1).Range("I538:I541").Value = 1
ElseIf Worksheets(6).Cells(2 + i2, 2 + j2).Value = 10 Then
    Worksheets(1).Range("I608:I611").Value = 1
ElseIf Worksheets(6).Cells(2 + i2, 2 + j2).Value = 11 Then
    Worksheets(1).Range("I664:I667").Value = 1
ElseIf Worksheets(6).Cells(2 + i2, 2 + j2).Value = 12 Then
    Worksheets(1).Range("I720:I723").Value = 1

```

```

End If
Next j2
'copy value to sheets
Worksheets(6).Cells(2 + i2, 5).Value = Worksheets(1).Range("P735").Value
Worksheets(6).Cells(2 + i2, 7).Value = Worksheets(1).Range("R735").Value
'Clear cell before next row
'1
Worksheets(1).Range("I6:I737").Value = 0
'end clear cells
Next i2
'//////////3time
For i3 = 1 To 220
'column
For j3 = 0 To 2
If Worksheets(7).Cells(2 + i3, 2 + j3).Value = 1 Then
Worksheets(1).Range("I62:I65").Value = 1
ElseIf Worksheets(7).Cells(2 + i3, 2 + j3).Value = 2 Then
Worksheets(1).Range("I118:I121").Value = 1
ElseIf Worksheets(7).Cells(2 + i3, 2 + j3).Value = 3 Then
Worksheets(1).Range("I174:I177").Value = 1
ElseIf Worksheets(7).Cells(2 + i3, 2 + j3).Value = 4 Then
Worksheets(1).Range("I230:I233").Value = 1
ElseIf Worksheets(7).Cells(2 + i3, 2 + j3).Value = 5 Then
Worksheets(1).Range("I300:I303").Value = 1
ElseIf Worksheets(7).Cells(2 + i3, 2 + j3).Value = 6 Then
Worksheets(1).Range("I356:I359").Value = 1
ElseIf Worksheets(7).Cells(2 + i3, 2 + j3).Value = 7 Then
Worksheets(1).Range("I426:I429").Value = 1
ElseIf Worksheets(7).Cells(2 + i3, 2 + j3).Value = 8 Then
Worksheets(1).Range("I482:I485").Value = 1

```



```

ElseIf Worksheets(7).Cells(2 + i3, 2 + j3).Value = 9 Then
    Worksheets(1).Range("I538:I541").Value = 1
ElseIf Worksheets(7).Cells(2 + i3, 2 + j3).Value = 10 Then
    Worksheets(1).Range("I608:I611").Value = 1
ElseIf Worksheets(7).Cells(2 + i3, 2 + j3).Value = 11 Then
    Worksheets(1).Range("I664:I667").Value = 1
ElseIf Worksheets(7).Cells(2 + i3, 2 + j3).Value = 12 Then
    Worksheets(1).Range("I720:I723").Value = 1
End If
Next j3
'copy value to sheets
Worksheets(7).Cells(2 + i3, 6).Value = Worksheets(1).Range("P735").Value
Worksheets(7).Cells(2 + i3, 8).Value = Worksheets(1).Range("R735").Value
'Clear cell before next row
'1
    Worksheets(1).Range("I6:I737").Value = 0
'end clear cells
Next i3
'//////////4time
For i4 = 1 To 495
    'column
    For j4 = 0 To 3
        If Worksheets(8).Cells(2 + i4, 2 + j4).Value = 1 Then
            Worksheets(1).Range("I62:I65").Value = 1
        ElseIf Worksheets(8).Cells(2 + i4, 2 + j4).Value = 2 Then
            Worksheets(1).Range("I118:I121").Value = 1
        ElseIf Worksheets(8).Cells(2 + i4, 2 + j4).Value = 3 Then
            Worksheets(1).Range("I174:I177").Value = 1
        ElseIf Worksheets(8).Cells(2 + i4, 2 + j4).Value = 4 Then
            Worksheets(1).Range("I230:I233").Value = 1
        
```



```

ElseIf Worksheets(8).Cells(2 + i4, 2 + j4).Value = 5 Then
    Worksheets(1).Range("I300:I303").Value = 1
ElseIf Worksheets(8).Cells(2 + i4, 2 + j4).Value = 6 Then
    Worksheets(1).Range("I356:I359").Value = 1
ElseIf Worksheets(8).Cells(2 + i4, 2 + j4).Value = 7 Then
    Worksheets(1).Range("I426:I429").Value = 1
ElseIf Worksheets(8).Cells(2 + i4, 2 + j4).Value = 8 Then
    Worksheets(1).Range("I482:I485").Value = 1
ElseIf Worksheets(8).Cells(2 + i4, 2 + j4).Value = 9 Then
    Worksheets(1).Range("I538:I541").Value = 1
ElseIf Worksheets(8).Cells(2 + i4, 2 + j4).Value = 10 Then
    Worksheets(1).Range("I608:I611").Value = 1
ElseIf Worksheets(8).Cells(2 + i4, 2 + j4).Value = 11 Then
    Worksheets(1).Range("I664:I667").Value = 1
ElseIf Worksheets(8).Cells(2 + i4, 2 + j4).Value = 12 Then
    Worksheets(1).Range("I720:I723").Value = 1
End If
Next j4
'copy value to sheets
Worksheets(8).Cells(2 + i4, 7).Value = Worksheets(1).Range("P735").Value
Worksheets(8).Cells(2 + i4, 9).Value = Worksheets(1).Range("R735").Value
'Clear cell before next row
'1
    Worksheets(1).Range("I6:I737").Value = 0
'end clear cells
Next i4
'//////////5time
For i5 = 1 To 792
    'colum
    For j5 = 0 To 4

```

```
If Worksheets(9).Cells(2 + i5, 2 + j5).Value = 1 Then
```

```
    Worksheets(1).Range("I62:I65").Value = 1
```

```
ElseIf Worksheets(9).Cells(2 + i5, 2 + j5).Value = 2 Then
```

```
    Worksheets(1).Range("I118:I121").Value = 1
```

```
ElseIf Worksheets(9).Cells(2 + i5, 2 + j5).Value = 3 Then
```

```
    Worksheets(1).Range("I174:I177").Value = 1
```

```
ElseIf Worksheets(9).Cells(2 + i5, 2 + j5).Value = 4 Then
```

```
    Worksheets(1).Range("I230:I233").Value = 1
```

```
ElseIf Worksheets(9).Cells(2 + i5, 2 + j5).Value = 5 Then
```

```
    Worksheets(1).Range("I300:I303").Value = 1
```

```
ElseIf Worksheets(9).Cells(2 + i5, 2 + j5).Value = 6 Then
```

```
    Worksheets(1).Range("I356:I359").Value = 1
```

```
ElseIf Worksheets(9).Cells(2 + i5, 2 + j5).Value = 7 Then
```

```
    Worksheets(1).Range("I426:I429").Value = 1
```

```
ElseIf Worksheets(9).Cells(2 + i5, 2 + j5).Value = 8 Then
```

```
    Worksheets(1).Range("I482:I485").Value = 1
```

```
ElseIf Worksheets(9).Cells(2 + i5, 2 + j5).Value = 9 Then
```

```
    Worksheets(1).Range("I538:I541").Value = 1
```

```
ElseIf Worksheets(9).Cells(2 + i5, 2 + j5).Value = 10 Then
```

```
    Worksheets(1).Range("I608:I611").Value = 1
```

```
ElseIf Worksheets(9).Cells(2 + i5, 2 + j5).Value = 11 Then
```

```
    Worksheets(1).Range("I664:I667").Value = 1
```

```
ElseIf Worksheets(9).Cells(2 + i5, 2 + j5).Value = 12 Then
```

```
    Worksheets(1).Range("I720:I723").Value = 1
```

```
End If
```

```
Next j5
```

```
'copy value to sheets
```

```
Worksheets(9).Cells(2 + i5, 8).Value = Worksheets(1).Range("P735").Value
```

```
Worksheets(9).Cells(2 + i5, 10).Value = Worksheets(1).Range("R735").Value
```

```
'Clear cell before next row
```

```

'1
Worksheets(1).Range("I6:I737").Value = 0
'end clear cells
Next i5
'//////////6time
For i6 = 1 To 924
'column
For j6 = 0 To 5
If Worksheets(10).Cells(2 + i6, 2 + j6).Value = 1 Then
Worksheets(1).Range("I62:I65").Value = 1
Elseif Worksheets(10).Cells(2 + i6, 2 + j6).Value = 2 Then
Worksheets(1).Range("I118:I121").Value = 1
Elseif Worksheets(10).Cells(2 + i6, 2 + j6).Value = 3 Then
Worksheets(1).Range("I174:I177").Value = 1
Elseif Worksheets(10).Cells(2 + i6, 2 + j6).Value = 4 Then
Worksheets(1).Range("I230:I233").Value = 1
Elseif Worksheets(10).Cells(2 + i6, 2 + j6).Value = 5 Then
Worksheets(1).Range("I300:I303").Value = 1
Elseif Worksheets(10).Cells(2 + i6, 2 + j6).Value = 6 Then
Worksheets(1).Range("I356:I359").Value = 1
Elseif Worksheets(10).Cells(2 + i6, 2 + j6).Value = 7 Then
Worksheets(1).Range("I426:I429").Value = 1
Elseif Worksheets(10).Cells(2 + i6, 2 + j6).Value = 8 Then
Worksheets(1).Range("I482:I485").Value = 1
Elseif Worksheets(10).Cells(2 + i6, 2 + j6).Value = 9 Then
Worksheets(1).Range("I538:I541").Value = 1
Elseif Worksheets(10).Cells(2 + i6, 2 + j6).Value = 10 Then
Worksheets(1).Range("I608:I611").Value = 1
Elseif Worksheets(10).Cells(2 + i6, 2 + j6).Value = 11 Then
Worksheets(1).Range("I664:I667").Value = 1

```

```

ElseIf Worksheets(10).Cells(2 + i6, 2 + j6).Value = 12 Then
    Worksheets(1).Range("I720:I723").Value = 1
End If

Next j6

'copy value to sheets
Worksheets(10).Cells(2 + i6, 9).Value = Worksheets(1).Range("P735").Value
Worksheets(10).Cells(2 + i6, 11).Value = Worksheets(1).Range("R735").Value

'Clear cell before next row
    '1
        Worksheets(1).Range("I6:I737").Value = 0
'end clear cells

Next i6

'//////////7time

For i7 = 1 To 792

    'colum

    For j7 = 0 To 6

        If Worksheets(11).Cells(2 + i7, 2 + j7).Value = 1 Then
            Worksheets(1).Range("I62:I65").Value = 1
        ElseIf Worksheets(11).Cells(2 + i7, 2 + j7).Value = 2 Then
            Worksheets(1).Range("I118:I121").Value = 1
        ElseIf Worksheets(11).Cells(2 + i7, 2 + j7).Value = 3 Then
            Worksheets(1).Range("I174:I177").Value = 1
        ElseIf Worksheets(11).Cells(2 + i7, 2 + j7).Value = 4 Then
            Worksheets(1).Range("I230:I233").Value = 1
        ElseIf Worksheets(11).Cells(2 + i7, 2 + j7).Value = 5 Then
            Worksheets(1).Range("I300:I303").Value = 1
        ElseIf Worksheets(11).Cells(2 + i7, 2 + j7).Value = 6 Then
            Worksheets(1).Range("I356:I359").Value = 1
        ElseIf Worksheets(11).Cells(2 + i7, 2 + j7).Value = 7 Then
            Worksheets(1).Range("I426:I429").Value = 1

```

```

ElseIf Worksheets(11).Cells(2 + i7, 2 + j7).Value = 8 Then
    Worksheets(1).Range("I482:I485").Value = 1
ElseIf Worksheets(11).Cells(2 + i7, 2 + j7).Value = 9 Then
    Worksheets(1).Range("I538:I541").Value = 1
ElseIf Worksheets(11).Cells(2 + i7, 2 + j7).Value = 10 Then
    Worksheets(1).Range("I608:I611").Value = 1
ElseIf Worksheets(11).Cells(2 + i7, 2 + j7).Value = 11 Then
    Worksheets(1).Range("I664:I667").Value = 1
ElseIf Worksheets(11).Cells(2 + i7, 2 + j7).Value = 12 Then
    Worksheets(1).Range("I720:I723").Value = 1
End If
Next j7

'copy value to sheets
Worksheets(11).Cells(2 + i7, 10).Value = Worksheets(1).Range("P735").Value
Worksheets(11).Cells(2 + i7, 12).Value = Worksheets(1).Range("R735").Value
'Clear cell before next row
'1
    Worksheets(1).Range("I6:I737").Value = 0
'end clear cells
Next i7

'//////////8time
For i8 = 1 To 495
    'column
    For j8 = 0 To 7
        If Worksheets(12).Cells(2 + i8, 2 + j8).Value = 1 Then
            Worksheets(1).Range("I62:I65").Value = 1
        ElseIf Worksheets(12).Cells(2 + i8, 2 + j8).Value = 2 Then
            Worksheets(1).Range("I118:I121").Value = 1
        ElseIf Worksheets(12).Cells(2 + i8, 2 + j8).Value = 3 Then
            Worksheets(1).Range("I174:I177").Value = 1

```



```

ElseIf Worksheets(12).Cells(2 + i8, 2 + j8).Value = 4 Then
    Worksheets(1).Range("I230:I233").Value = 1
ElseIf Worksheets(12).Cells(2 + i8, 2 + j8).Value = 5 Then
    Worksheets(1).Range("I300:I303").Value = 1
ElseIf Worksheets(12).Cells(2 + i8, 2 + j8).Value = 6 Then
    Worksheets(1).Range("I356:I359").Value = 1
ElseIf Worksheets(12).Cells(2 + i8, 2 + j8).Value = 7 Then
    Worksheets(1).Range("I426:I429").Value = 1
ElseIf Worksheets(12).Cells(2 + i8, 2 + j8).Value = 8 Then
    Worksheets(1).Range("I482:I485").Value = 1
ElseIf Worksheets(12).Cells(2 + i8, 2 + j8).Value = 9 Then
    Worksheets(1).Range("I538:I541").Value = 1
ElseIf Worksheets(12).Cells(2 + i8, 2 + j8).Value = 10 Then
    Worksheets(1).Range("I608:I611").Value = 1
ElseIf Worksheets(12).Cells(2 + i8, 2 + j8).Value = 11 Then
    Worksheets(1).Range("I664:I667").Value = 1
ElseIf Worksheets(12).Cells(2 + i8, 2 + j8).Value = 12 Then
    Worksheets(1).Range("I720:I723").Value = 1
End If

```

```
Next j8
```

```
'copy value to sheets
```

```
Worksheets(12).Cells(2 + i8, 11).Value = Worksheets(1).Range("P735").Value
```

```
Worksheets(12).Cells(2 + i8, 13).Value = Worksheets(1).Range("R735").Value
```

```
'Clear cell before next row
```

```
'1
```

```
Worksheets(1).Range("I6:I737").Value = 0
```

```
'end clear cells
```

```
Next i8
```

```
'//////////9time
```

```
For i9 = 1 To 220
```


'column

For j9 = 0 To 8

If Worksheets(13).Cells(2 + i9, 2 + j9).Value = 1 Then

Worksheets(1).Range("I62:I65").Value = 1

ElseIf Worksheets(13).Cells(2 + i9, 2 + j9).Value = 2 Then

Worksheets(1).Range("I118:I121").Value = 1

ElseIf Worksheets(13).Cells(2 + i9, 2 + j9).Value = 3 Then

Worksheets(1).Range("I174:I177").Value = 1

ElseIf Worksheets(13).Cells(2 + i9, 2 + j9).Value = 4 Then

Worksheets(1).Range("I230:I233").Value = 1

ElseIf Worksheets(13).Cells(2 + i9, 2 + j9).Value = 5 Then

Worksheets(1).Range("I300:I303").Value = 1

ElseIf Worksheets(13).Cells(2 + i9, 2 + j9).Value = 6 Then

Worksheets(1).Range("I356:I359").Value = 1

ElseIf Worksheets(13).Cells(2 + i9, 2 + j9).Value = 7 Then

Worksheets(1).Range("I426:I429").Value = 1

ElseIf Worksheets(13).Cells(2 + i9, 2 + j9).Value = 8 Then

Worksheets(1).Range("I482:I485").Value = 1

ElseIf Worksheets(13).Cells(2 + i9, 2 + j9).Value = 9 Then

Worksheets(1).Range("I538:I541").Value = 1

ElseIf Worksheets(13).Cells(2 + i9, 2 + j9).Value = 10 Then

Worksheets(1).Range("I608:I611").Value = 1

ElseIf Worksheets(13).Cells(2 + i9, 2 + j9).Value = 11 Then

Worksheets(1).Range("I664:I667").Value = 1

ElseIf Worksheets(13).Cells(2 + i9, 2 + j9).Value = 12 Then

Worksheets(1).Range("I720:I723").Value = 1

End If

Next j9

'copy value to sheets

Worksheets(13).Cells(2 + i9, 12).Value = Worksheets(1).Range("P735").Value



```

Worksheets(13).Cells(2 + i9, 14).Value = Worksheets(1).Range("R735").Value

'Clear cell before next row
    '1
        Worksheets(1).Range("I6:I737").Value = 0
'end clear cells
Next i9
'//////////10time
For i10 = 1 To 66
    'column
    For j10 = 0 To 9
        If Worksheets(14).Cells(2 + i10, 2 + j10).Value = 1 Then
            Worksheets(1).Range("I62:I65").Value = 1
        ElseIf Worksheets(14).Cells(2 + i10, 2 + j10).Value = 2 Then
            Worksheets(1).Range("I118:I121").Value = 1
        ElseIf Worksheets(14).Cells(2 + i10, 2 + j10).Value = 3 Then
            Worksheets(1).Range("I174:I177").Value = 1
        ElseIf Worksheets(14).Cells(2 + i10, 2 + j10).Value = 4 Then
            Worksheets(1).Range("I230:I233").Value = 1
        ElseIf Worksheets(14).Cells(2 + i10, 2 + j10).Value = 5 Then
            Worksheets(1).Range("I300:I303").Value = 1
        ElseIf Worksheets(14).Cells(2 + i10, 2 + j10).Value = 6 Then
            Worksheets(1).Range("I356:I359").Value = 1
        ElseIf Worksheets(14).Cells(2 + i10, 2 + j10).Value = 7 Then
            Worksheets(1).Range("I426:I429").Value = 1
        ElseIf Worksheets(14).Cells(2 + i10, 2 + j10).Value = 8 Then
            Worksheets(1).Range("I482:I485").Value = 1
        ElseIf Worksheets(14).Cells(2 + i10, 2 + j10).Value = 9 Then
            Worksheets(1).Range("I538:I541").Value = 1
        ElseIf Worksheets(14).Cells(2 + i10, 2 + j10).Value = 10 Then

```

```

Worksheets(1).Range("I608:I611").Value = 1
ElseIf Worksheets(14).Cells(2 + i10, 2 + j10).Value = 11 Then
    Worksheets(1).Range("I664:I667").Value = 1
ElseIf Worksheets(14).Cells(2 + i10, 2 + j10).Value = 12 Then
    Worksheets(1).Range("I720:I723").Value = 1
End If
Next j10

'copy value to sheets
Worksheets(14).Cells(2 + i10, 13).Value = Worksheets(1).Range("P735").Value
Worksheets(14).Cells(2 + i10, 15).Value = Worksheets(1).Range("R735").Value
'Clear cell before next row
'1
    Worksheets(1).Range("I6:I737").Value = 0
'end clear cells
Next i10

'//////////11time
For i11 = 1 To 12
    'column
    For j11 = 0 To 10
        If Worksheets(15).Cells(2 + i11, 2 + j11).Value = 1 Then
            Worksheets(1).Range("I62:I65").Value = 1
        ElseIf Worksheets(15).Cells(2 + i11, 2 + j11).Value = 2 Then
            Worksheets(1).Range("I118:I121").Value = 1
        ElseIf Worksheets(15).Cells(2 + i11, 2 + j11).Value = 3 Then
            Worksheets(1).Range("I174:I177").Value = 1
        ElseIf Worksheets(15).Cells(2 + i11, 2 + j11).Value = 4 Then
            Worksheets(1).Range("I230:I233").Value = 1
        ElseIf Worksheets(15).Cells(2 + i11, 2 + j11).Value = 5 Then
            Worksheets(1).Range("I300:I303").Value = 1
        ElseIf Worksheets(15).Cells(2 + i11, 2 + j11).Value = 6 Then

```

```

Worksheets(1).Range("I356:I359").Value = 1
ElseIf Worksheets(15).Cells(2 + i11, 2 + j11).Value = 7 Then
    Worksheets(1).Range("I426:I429").Value = 1
ElseIf Worksheets(15).Cells(2 + i11, 2 + j11).Value = 8 Then
    Worksheets(1).Range("I482:I485").Value = 1
ElseIf Worksheets(15).Cells(2 + i11, 2 + j11).Value = 9 Then
    Worksheets(1).Range("I538:I541").Value = 1
ElseIf Worksheets(15).Cells(2 + i11, 2 + j11).Value = 10 Then
    Worksheets(1).Range("I608:I611").Value = 1
ElseIf Worksheets(15).Cells(2 + i11, 2 + j11).Value = 11 Then
    Worksheets(1).Range("I664:I667").Value = 1
ElseIf Worksheets(15).Cells(2 + i11, 2 + j11).Value = 12 Then
    Worksheets(1).Range("I720:I723").Value = 1
End If
Next j11
'copy value to sheets
Worksheets(15).Cells(2 + i11, 14).Value = Worksheets(1).Range("P735").Value
Worksheets(15).Cells(2 + i11, 16).Value = Worksheets(1).Range("R735").Value
'Clear cell before next row
'1
    Worksheets(1).Range("I6:I737").Value = 0
'end clear cells
Next i11
'//////////12time
i12 = 1
'For i = 1 To
'colum
For j12 = 0 To 11
    If Worksheets(16).Cells(2 + i12, 2 + j12).Value = 1 Then
        Worksheets(1).Range("I62:I65").Value = 1
    
```

```
ElseIf Worksheets(16).Cells(2 + i12, 2 + j12).Value = 2 Then
```

```
    Worksheets(1).Range("I118:I121").Value = 1
```

```
ElseIf Worksheets(16).Cells(2 + i12, 2 + j12).Value = 3 Then
```

```
    Worksheets(1).Range("I174:I177").Value = 1
```

```
ElseIf Worksheets(16).Cells(2 + i12, 2 + j12).Value = 4 Then
```

```
    Worksheets(1).Range("I230:I233").Value = 1
```

```
ElseIf Worksheets(16).Cells(2 + i12, 2 + j12).Value = 5 Then
```

```
    Worksheets(1).Range("I300:I303").Value = 1
```

```
ElseIf Worksheets(16).Cells(2 + i12, 2 + j12).Value = 6 Then
```

```
    Worksheets(1).Range("I356:I359").Value = 1
```

```
ElseIf Worksheets(16).Cells(2 + i12, 2 + j12).Value = 7 Then
```

```
    Worksheets(1).Range("I426:I429").Value = 1
```

```
ElseIf Worksheets(16).Cells(2 + i12, 2 + j12).Value = 8 Then
```

```
    Worksheets(1).Range("I482:I485").Value = 1
```

```
ElseIf Worksheets(16).Cells(2 + i12, 2 + j12).Value = 9 Then
```

```
    Worksheets(1).Range("I538:I541").Value = 1
```

```
ElseIf Worksheets(16).Cells(2 + i12, 2 + j12).Value = 10 Then
```

```
    Worksheets(1).Range("I608:I611").Value = 1
```

```
ElseIf Worksheets(16).Cells(2 + i12, 2 + j12).Value = 11 Then
```

```
    Worksheets(1).Range("I664:I667").Value = 1
```

```
ElseIf Worksheets(16).Cells(2 + i12, 2 + j12).Value = 12 Then
```

```
    Worksheets(1).Range("I720:I723").Value = 1
```

```
End If
```

```
Next j12
```

```
'copy value to sheets
```

```
Worksheets(16).Cells(2 + i12, 15).Value = Worksheets(1).Range("P735").Value
```

```
Worksheets(16).Cells(2 + i12, 17).Value = Worksheets(1).Range("R735").Value
```

```
'Clear cell before next row
```

```
'1
```

```
Worksheets(1).Range("I6:I737").Value = 0
```



```

'end clear cells

'Next i12
strValueMsg = MsgBox("All case calculation completed!", 0 + 64, "GT11")
End With
End Sub

Sub sortresultsavingcost()
Dim strValueMsg As String
'With ActiveWorkbook
'//////////1 time
Worksheets(5).Activate
Worksheets(5).Range("A2:G14").Sort _
    key1:=Range("G1"), Order1:=xlDescending, _
    Key2:=Range("F1"), Order1:=xlDescending, _
    Key3:=Range("E1"), Order1:=xlDescending
'copy value
Worksheets(17).Range("P3").Value = Worksheets(5).Range("D2").Value
Worksheets(17).Range("R3").Value = Worksheets(5).Range("F2").Value
'copy case
Worksheets(17).Range("B3:C3").Value = Worksheets(5).Range("A2:B2").Value
Worksheets(5).Range("A2:G14").Sort _
    key1:=Range("A1"), Order1:=xlAscending, _
    Key2:=Range("B1"), Order1:=xlAscending, _
    Key3:=Range("C1"), Order1:=xlAscending
'//////////2 time
Worksheets(6).Activate
Worksheets(6).Range("A2:H68").Sort _
    key1:=Range("H1"), Order1:=xlDescending, _
    Key2:=Range("G1"), Order1:=xlDescending, _
    Key3:=Range("F1"), Order1:=xlDescending

```


'copy value

Worksheets(17).Range("P4").Value = Worksheets(6).Range("E2").Value

Worksheets(17).Range("R4").Value = Worksheets(6).Range("G2").Value

'copy case

Worksheets(17).Range("B4:D4").Value = Worksheets(6).Range("A2:C2").Value

Worksheets(6).Range("A2:H68").Sort _

key1:=Range("A1"), Order1:=xlAscending, _

Key2:=Range("B1"), Order1:=xlAscending, _

Key3:=Range("C1"), Order1:=xlAscending

'//////////3 time

Worksheets(7).Activate

Worksheets(7).Range("A2:I222").Sort _

key1:=Range("I1"), Order1:=xlDescending, _

Key2:=Range("H1"), Order1:=xlDescending, _

Key3:=Range("G1"), Order1:=xlDescending

'copy value

Worksheets(17).Range("P5").Value = Worksheets(7).Range("F2").Value

Worksheets(17).Range("R5").Value = Worksheets(7).Range("H2").Value

'copy case

Worksheets(17).Range("B5:E5").Value = Worksheets(7).Range("A2:D2").Value

Worksheets(7).Range("A2:I222").Sort _

key1:=Range("A1"), Order1:=xlAscending, _

Key2:=Range("B1"), Order1:=xlAscending, _

Key3:=Range("C1"), Order1:=xlAscending

'//////////4 time

Worksheets(8).Activate

Worksheets(8).Range("A2:J497").Sort _

key1:=Range("J1"), Order1:=xlDescending, _

Key2:=Range("I1"), Order1:=xlDescending, _

Key3:=Range("H1"), Order1:=xlDescending

'copy value

Worksheets(17).Range("P6").Value = Worksheets(8).Range("G2").Value

Worksheets(17).Range("R6").Value = Worksheets(8).Range("I2").Value

'copy case

Worksheets(17).Range("B6:F6").Value = Worksheets(8).Range("A2:E2").Value

Worksheets(8).Range("A2:J497").Sort _

key1:=Range("A1"), Order1:=xlAscending, _

Key2:=Range("B1"), Order1:=xlAscending, _

Key3:=Range("C1"), Order1:=xlAscending

'//////////5 time

Worksheets(9).Activate

Worksheets(9).Range("A2:K794").Sort _

key1:=Range("K1"), Order1:=xlDescending, _

Key2:=Range("J1"), Order1:=xlDescending, _

Key3:=Range("I1"), Order1:=xlDescending

'copy value

Worksheets(17).Range("P7").Value = Worksheets(9).Range("H2").Value

Worksheets(17).Range("R7").Value = Worksheets(9).Range("J2").Value

'copy case

Worksheets(17).Range("B7:G7").Value = Worksheets(9).Range("A2:F2").Value

Worksheets(9).Range("A2:K794").Sort _

key1:=Range("A1"), Order1:=xlAscending, _

Key2:=Range("B1"), Order1:=xlAscending, _

Key3:=Range("C1"), Order1:=xlAscending

'//////////6 time

Worksheets(10).Activate

Worksheets(10).Range("A2:L926").Sort _

key1:=Range("L1"), Order1:=xlDescending, _

Key2:=Range("K1"), Order1:=xlDescending, _

Key3:=Range("J1"), Order1:=xlDescending

'copy value

Worksheets(17).Range("P8").Value = Worksheets(10).Range("I2").Value

Worksheets(17).Range("R8").Value = Worksheets(10).Range("K2").Value

'copy case

Worksheets(17).Range("B8:H8").Value = Worksheets(10).Range("A2:G2").Value

Worksheets(10).Range("A2:L926").Sort _

key1:=Range("A1"), Order1:=xlAscending, _

Key2:=Range("B1"), Order1:=xlAscending, _

Key3:=Range("C1"), Order1:=xlAscending

'//////////7 time

Worksheets(11).Activate

Worksheets(11).Range("A2:M794").Sort _

key1:=Range("M1"), Order1:=xlDescending, _

Key2:=Range("L1"), Order1:=xlDescending, _

Key3:=Range("K1"), Order1:=xlDescending

'copy value

Worksheets(17).Range("P9").Value = Worksheets(11).Range("J2").Value

Worksheets(17).Range("R9").Value = Worksheets(11).Range("L2").Value

'copy case

Worksheets(17).Range("B9:I9").Value = Worksheets(11).Range("A2:H2").Value

Worksheets(11).Range("A2:M794").Sort _

key1:=Range("A1"), Order1:=xlAscending, _

Key2:=Range("B1"), Order1:=xlAscending, _

Key3:=Range("C1"), Order1:=xlAscending

'//////////8 time

Worksheets(12).Activate

Worksheets(12).Range("A2:N497").Sort _

key1:=Range("N1"), Order1:=xlDescending, _

Key2:=Range("M1"), Order1:=xlDescending, _

Key3:=Range("L1"), Order1:=xlDescending

'copy value

Worksheets(17).Range("P10").Value = Worksheets(12).Range("K2").Value

Worksheets(17).Range("R10").Value = Worksheets(12).Range("M2").Value

'copy case

Worksheets(17).Range("B10:J10").Value = Worksheets(12).Range("A2:I2").Value

Worksheets(12).Range("A2:N497").Sort _

key1:=Range("A1"), Order1:=xlAscending, _

Key2:=Range("B1"), Order1:=xlAscending, _

Key3:=Range("C1"), Order1:=xlAscending

'//////////9 time

Worksheets(13).Activate

Worksheets(13).Range("A2:O220").Sort _

key1:=Range("O1"), Order1:=xlDescending, _

Key2:=Range("N1"), Order1:=xlDescending, _

Key3:=Range("M1"), Order1:=xlDescending

'copy value

Worksheets(17).Range("P11").Value = Worksheets(13).Range("L2").Value

Worksheets(17).Range("R11").Value = Worksheets(13).Range("N2").Value

'copy case

Worksheets(17).Range("B11:K11").Value = Worksheets(13).Range("A2:J2").Value

Worksheets(13).Range("A2:O220").Sort _

key1:=Range("A1"), Order1:=xlAscending, _

Key2:=Range("B1"), Order1:=xlAscending, _

Key3:=Range("C1"), Order1:=xlAscending

'//////////10 time

Worksheets(14).Activate

Worksheets(14).Range("A2:P68").Sort _

key1:=Range("P1"), Order1:=xlDescending, _

Key2:=Range("O1"), Order1:=xlDescending, _

Key3:=Range("N1"), Order1:=xlDescending

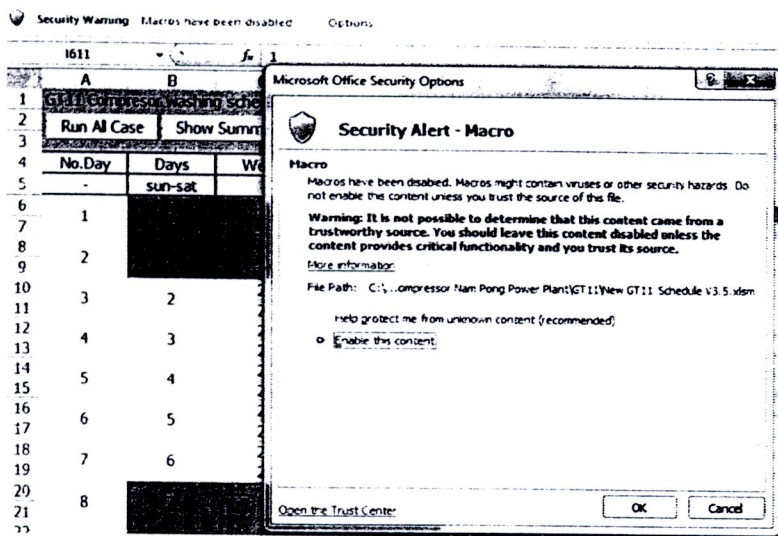
```

'copy value
    Worksheets(17).Range("P12").Value = Worksheets(14).Range("M2").Value
    Worksheets(17).Range("R12").Value = Worksheets(14).Range("O2").Value
'copy case
    Worksheets(17).Range("B12:L12").Value = Worksheets(14).Range("A2:K2").Value
Worksheets(14).Range("A2:P68").Sort _
    key1:=Range("A1"), Order1:=xlAscending, _
    Key2:=Range("B1"), Order1:=xlAscending, _
    Key3:=Range("C1"), Order1:=xlAscending
'//////////11 time
Worksheets(15).Activate
Worksheets(15).Range("A2:Q14").Sort _
    key1:=Range("Q1"), Order1:=xlDescending, _
    Key2:=Range("P1"), Order1:=xlDescending, _
    Key3:=Range("O1"), Order1:=xlDescending
'copy value
    Worksheets(17).Range("P13").Value = Worksheets(15).Range("N2").Value
    Worksheets(17).Range("R13").Value = Worksheets(15).Range("P2").Value
'copy case
    Worksheets(17).Range("B13:M13").Value = Worksheets(15).Range("A2:L2").Value
Worksheets(15).Range("A2:Q14").Sort _
    key1:=Range("A1"), Order1:=xlAscending, _
    Key2:=Range("B1"), Order1:=xlAscending, _
    Key3:=Range("C1"), Order1:=xlAscending
'//////////open result sheet
Worksheets(17).Activate
    strValueMsg = MsgBox("Show result completed!", 0 + 64, "GT11")
'End With
End Sub

```


2. วิธีการใช้งานโปรแกรมเพื่อกำหนดแผนที่เหมาะสมในการทำความสะดวกคอมพิวเตอร์เครื่องกังหันก๊าซ GT11

2.1 กดเปิดการใช้งานแมโคร



ภาพที่ ข(1) ปุ่มเปิดใช้งานแมโคร

2.2 กดปุ่ม Set no clean เพื่อให้โปรแกรมคำนวณค่าเริ่มต้นเมื่อไม่มีการทำความสะอาด

	A	B	C	D	E	F
1	GT11 Compressor washing schedule					
2	Run All Case	Show Summary	SetNoClean	1 Time	2 Time	
3						
4	No. Day	Days	Week	Date	Day	Time
5	-	sun-sat	-	-	-	-
6	1				1	0
7						1
8	2				2	0
9						1
10	3	2	2	3/1/2011	3	0
11			2			1
12	4	3	2	4/1/2011	4	0
13			2			1
14	5	4	2	5/1/2011	5	0
15			2			1
16	6	5	2	6/1/2011	6	0
17			2			1
18	7	6	2	7/1/2011	7	0
19			2			1

ภาพที่ ข(2) ปุ่ม Set no clean

2.3 กดปุ่ม Run all case เพื่อให้โปรแกรมคำนวณทุกรูปแบบการทำความสะอาด

	A	B	C	D	E	F
1	GT11 Compressor washing schedule					
2	Run All Case	Show Summary	SetNoClean	1 Time	2 Time	
3						
4	No.Day	Days	Week	Date	Day	Time
5	-	sun-sat	-	-	-	-
6	1				1	0
7						1
8	2				2	0
9						1
10	3	2	2	3/1/2011	3	0
11			2			1
12	4	3	2	4/1/2011	4	0
13			2			1
14	5	4	2	5/1/2011	5	0
15			2			1
16	6	5	2	6/1/2011	6	0
17			2			1
18	7	6	2	7/1/2011	7	0
19			2			1

ภาพที่ ข(3) ปุ่ม Run all case

2.4 กดปุ่ม Show Summary เพื่อให้โปรแกรมแสดงผลการคำนวณ

	A	B	C	D	E	F
1	GT11 Compressor washing schedule					
2	Run All Case	Show Summary	SetNoClean	1 Time	2 Time	
3						
4	No.Day	Days	Week	Date	Day	Time
5	-	sun-sat	-	-	-	-
6	1				1	0
7						1
8	2				2	0
9						1
10	3	2	2	3/1/2011	3	0
11			2			1
12	4	3	2	4/1/2011	4	0
13			2			1
14	5	4	2	5/1/2011	5	0
15			2			1
16	6	5	2	6/1/2011	6	0
17			2			1
18	7	6	2	7/1/2011	7	0
19			2			1

ภาพที่ ข(3) ปุ่ม Show Summary

การเผยแพร่ผลงานวิทยานิพนธ์

- [1] รพีพัฒน์ ลาட்சรีทา, สมหมาย ปรีเปรม และ ชนกนันท์ สุขกำเนิด (2553). การกำหนดแผนในการทำความสะอาดคอมเพรสเซอร์เครื่องกังหันก๊าซเพื่อให้ได้ผลประหยัดสูงสุด. การประชุมวิชาการเครือข่ายวิศวกรรมเครื่องกลแห่งประเทศไทยครั้งที่ 24 : 20 – 22 ตุลาคม 2553, โรงแรมสุนิย์แกรนด์ไฮเทล, อุบลราชธานี.

ประวัติผู้เขียน



ชื่อ – นามสกุล

นายรพีพัฒน์ ลาดศรีทา

วัน เดือน ปีเกิด

เกิดวันที่ 21 สิงหาคม พ.ศ. 2530

ประวัติการศึกษา

2551

ปริญญาวิศวกรรมศาสตรบัณฑิต สาขาวิชาวิศวกรรมเครื่องกล

คณะวิศวกรรมศาสตร์ มหาวิทยาลัยขอนแก่น

2552

กำลังศึกษาปริญญาโท สาขาวิชาวิศวกรรมเครื่องกล

คณะวิศวกรรมศาสตร์ มหาวิทยาลัยขอนแก่น

