



LAMPIRAN

MDI Form1

Struktur Menu :

1. File
 - a. Buat data baru
 - b. Input jumlah job
 - c. Input operasi setiap job
 - d. Input jumlah mesin setiap operasi
 - e. Input nomer dan time mesin
2. Run
 - a. Proses
 - b. List peluang tiap job
 - c. List hasil
 - d. List gambar
 - e. Options
3. Help
 - a. About

Listing Program Untuk MDI form1

```
Private Sub About_Click()
    On Error GoTo About_salah
    Form5.Show
    Exit Sub
About_salah:
End Sub
```

```
Private Sub exit_Click()
    On Error GoTo Salah_exit_Click
    Unload Me
    Exit Sub
Salah_exit_Click:
End Sub
```

```
Private Sub Gambar_Click()
    On Error GoTo Gambar_salah
    Form9.Show
    Exit Sub
Gambar_salah:
End Sub
```

```
Private Sub Hasil_Click()
    On Error GoTo Hasil_salah
    Form8.Show
```

```
Exit Sub
Hasil_salah:
End Sub
```

```
Private Sub job_Click()
    On Error GoTo job_salah
    Form1.Show
    Exit Sub
job_salah:
End Sub
```

```
Private Sub mesin_Click()
    On Error GoTo mesin_salah
    Form3.Show
    Exit Sub
mesin_salah:
End Sub
```

```
Private Sub NomerTime_Click()
    On Error GoTo NomerTime_salah
    Form4.Show
    Exit Sub
NomerTime_salah:
End Sub
```

```
Private Sub baru_Click()
    On Error GoTo baru_salah
    Randomize
    SumJob = 1
    For i = 0 To 50 Step 1
        SumOperasi(i) = 1
    Next i
    For i = 0 To 50 Step 1
        For j = 0 To 5 Step 1
            SumMesinPerJobOperasi(i, j) = 1
        Next j
    Next i
    TimeAcak = 10
    SelisihAcak = 3
    CekAcak = True
    For i = 0 To 50 Step 1
        For j = 0 To 5 Step 1
            NamaMesin(i, j, 0) = 1
            TimeMesin(i, j, 0) = Int((TimeAcak * Rnd) + 1)
            For k = 1 To 5 Step 1
                NamaMesin(i, j, k) = 1
                Do
                    TimeMesin(i, j, k) = Int((TimeAcak * Rnd) + 1)
                Loop While Abs(TimeMesin(i, j, k) - TimeMesin(i, j, 0)) > SelisihAcak
            Next k
        Next j
    Next i
```

```

Next i


```

```

Private Sub opr_Click()
On Error GoTo opr_salah
Form2.Show
Exit Sub
opr_salah:
End Sub

```

```

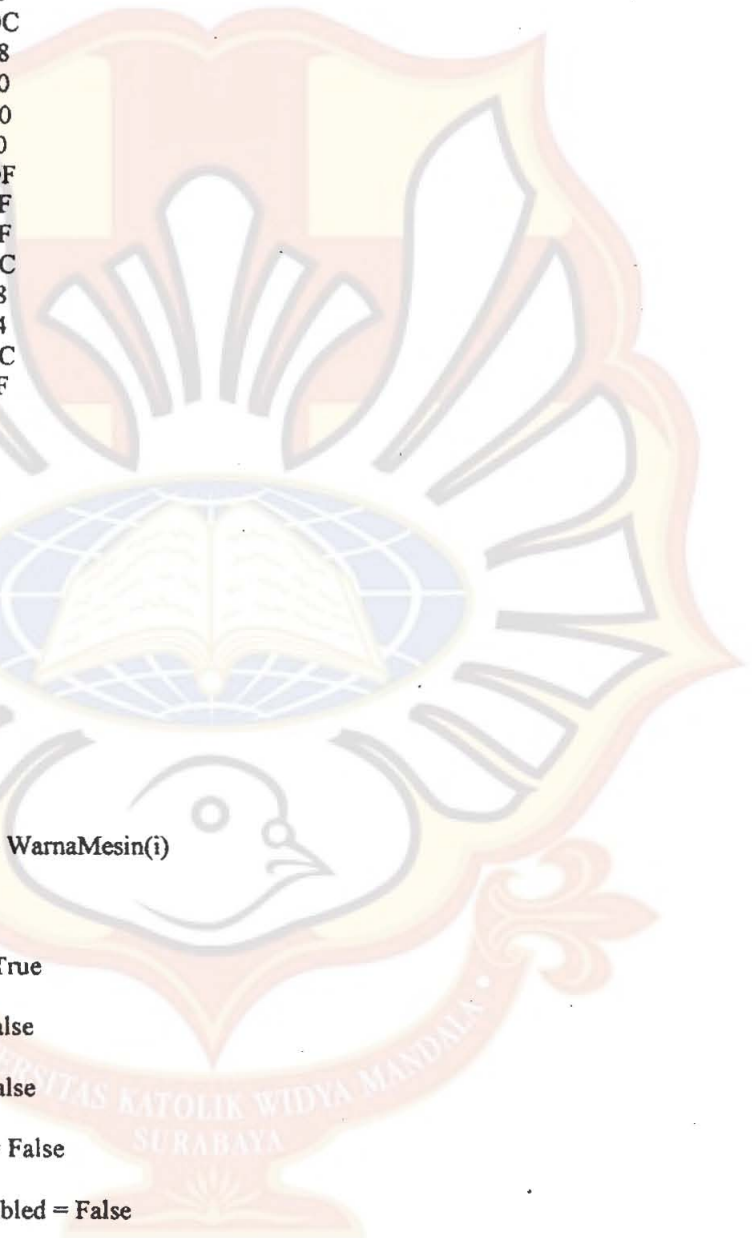
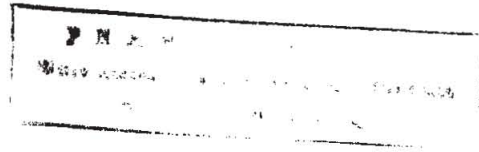
Private Sub MDIForm_Load()
On Error GoTo MDIForm_salah
WarnaMesin(0) = &HFFFFFF
WarnaMesin(1) = &HE0E0E0
WarnaMesin(2) = &HC0C0C0
WarnaMesin(3) = &H808080
WarnaMesin(4) = &H404040
WarnaMesin(5) = &H0
WarnaMesin(6) = &HC0C0FF
WarnaMesin(7) = &HFF8080
WarnaMesin(8) = &HFF
WarnaMesin(9) = &HC0
WarnaMesin(10) = &H80
WarnaMesin(11) = &H40
WarnaMesin(12) = &HC0E0FF
WarnaMesin(13) = &H80C0FF
WarnaMesin(14) = &HF
WarnaMesin(15) = &H40C0
WarnaMesin(16) = &H404080
WarnaMesin(17) = &HC0FFFF
WarnaMesin(18) = &HFFF
WarnaMesin(19) = &HC0C
WarnaMesin(20) = &H808
WarnaMesin(21) = &H4040
WarnaMesin(22) = &HC0FFC0
WarnaMesin(23) = &H80FF80
WarnaMesin(24) = &HFF
WarnaMesin(25) = &HC00

```

```

WarnaMesin(26) = &H800
WarnaMesin(27) = &H400
WarnaMesin(28) = &HFFFFC
WarnaMesin(29) = &HFFFF8
WarnaMesin(30) = &HFFFF0
WarnaMesin(31) = &HC0C00
WarnaMesin(32) = &H80800
WarnaMesin(33) = &H40000
WarnaMesin(34) = &HFFC0C
WarnaMesin(35) = &HFF808
WarnaMesin(36) = &HFF000
WarnaMesin(37) = &HC0000
WarnaMesin(38) = &H80000
WarnaMesin(39) = &HFFC0F
WarnaMesin(30) = &HFF80F
WarnaMesin(31) = &HFF00F
WarnaMesin(32) = &HC000C
WarnaMesin(33) = &H80008
WarnaMesin(34) = &H40004
WarnaMesin(35) = &HC000C
WarnaMesin(36) = &H4000F
WarnaMesin(37) = &H400
WarnaMesin(38) = &H4001
WarnaMesin(39) = &H4002
WarnaMesin(40) = &H4003
WarnaMesin(41) = &H4004
WarnaMesin(42) = &H4005
WarnaMesin(43) = &H4006
WarnaMesin(44) = &H4007
WarnaMesin(45) = &H4008
WarnaMesin(46) = &H4009
WarnaMesin(47) = &H4010
WarnaMesin(48) = &H4011
WarnaMesin(49) = &H4012
For i = 0 To 49 Step 1
    WarnaMesin(i + 50 + 1) = WarnaMesin(i)
Next i
WarnaGaris = &HFF&
'baru
MDIForm1.baru.Enabled = True
'input job
MDIForm1.job.Enabled = False
'input operasi
MDIForm1.opr.Enabled = False
'input mesin
MDIForm1.mesin.Enabled = False
'input mesin
MDIForm1.NomerTime.Enabled = False
'inputnomer mesin
MDIForm1.NomerTime = False
'run
MDIForm1.Run = True
'proses
MDIForm1.Proses = False
'list peluang

```



```

MDIForm1.Peluang = False
'list hasil
MDIForm1.Hasil = False
'list gambar
MDIForm1.Gambar = False
MDIForm1.options = False
MDIForm1.Help = True
MDIForm1.About = True
Exit Sub
MDIForm_salah:
MsgBox ("Ada Kesalah Pada Window, Program Tidak dapat dijalankan")
End Sub

Private Sub options_Click()
On Error GoTo options_salah
Form10.Show
Exit Sub
options_salah:
End Sub

Private Sub Peluang_Click()
On Error GoTo Peluang_salah
Form7.Show
Exit Sub
Peluang_salah:
End Sub

Private Sub Proses_Click()
On Error GoTo Proses_salah
'kosongkan semua variabel peluang
'job
'list peluang
MDIForm1.Peluang = True
'list hasil
MDIForm1.Hasil = True
'list gambar
MDIForm1.Gambar = True
For i = 0 To 50 Step 1
SumPeluang(i) = 0
'operasi
For j = 0 To 5 Step 1
TimePeluang(i, j) = 0
'peluang
For k = 0 To 1000 Step 1
UrutPeluang(i, k, j) = 0
Next k
Next j
Next i
For i = 0 To SumJob - 1 Step 1
For j = SumOperasi(i) - 1 To 0 Step -1
'cari waktu terkecil
temp = TimeMesin(i, j, 0)
For k = 0 To SumMesinPerJobOperasi(i, j) - 1 Step 1
If TimeMesin(i, j, k) < temp Then
temp = TimeMesin(i, j, k)

```

```

End If
Next k
'cari jumlah waktu terkecil yang ada
jum = 0
For k = 0 To SumMesinPerJobOperasi(i, j) - 1 Step 1
    If TimeMesin(i, j, k) = temp Then
        'simpan nama mesin tiap peluang
        Nama(jum) = NamaMesin(i, j, k)
        jum = jum + 1
    End If
Next k
'simpan waktu yang terkecil
TimePeluang(i, j) = temp
If j = SumOperasi(i) - 1 Then
    'untuk peluang yang pertama dari belakang
    For k = 0 To jum - 1 Step 1
        UrutPeluang(i, k, j) = Nama(k)
    Next k
    SumPeluang(i) = jum
Else
    'buat salinan peluang
    For k = 1 To jum - 1 Step 1
        For l = 0 To SumPeluang(i) - 1 Step 1
            For m = 0 To 5 Step 1
                UrutPeluang(i, l + (SumPeluang(i) * k), m) =
                    UrutPeluang(i, l, m)
            Next m
        Next l
    Next k
    'masukkan nama mesin dan time tiap peluang
    For k = 0 To jum - 1 Step 1
        For l = 0 To SumPeluang(i) - 1 Step 1
            UrutPeluang(i, l + (SumPeluang(i) * k), j) = Nama(k)
        Next l
    Next k
    SumPeluang(i) = SumPeluang(i) * jum
End If
Next j
Next i
'nilai awal
For i = 0 To SumJob - 1 Step 1
    If i = 0 Then
        Call SetWaktu((i), (0), (0))
    Else
        Call SetWaktu((i), (0), (1))
    End If
Next i
'cari yang terbaik
'cari kombinasi
For i = 0 To SumJob - 1 Step 1
    For j = 0 To SumPeluang(i) - 1 Step 1
        'buat urutan waktu i_j (pertama kali)
        'belum dibuat

        cek = 1
        For k = 0 To SumJob - 1 Step 1
            Kombinasi(k) = 0

```

```

Next k
Do While cek = 1
  Call SetWaktuTemp((i), (j), (0))
  For k = 0 To SumJob - 1 Step 1
    If k < i Then
      'buat urutan waktu k_kombinasi(k)
      'belum dibuat
      Call SetWaktuTemp((k), (Kombinasi(k)), (1))
    End If
  Next k
  'bandingkan dengan yang lama
  'belum dibuat
  If HasilTotal > TempTotal Then
    Call Tukar
  End If
  cek = 0
  For k = 0 To SumJob - 1 Step 1
    If Kombinasi(k) < SumPeluang(k) - 1 Then
      cek = 1
    End If
  Next k
  If cek = 1 Then
    For k = SumJob - 1 To 0 Step -1
      If k < 0 Then
        If Kombinasi(k) = SumPeluang(k) - 1 And Kombinasi(k - 1) < SumPeluang(k - 1) - 1 Then
          For l = k To SumJob - 1 Step 1
            Kombinasi(l) = 0
          Next l
          Kombinasi(k - 1) = Kombinasi(k - 1) + 1
          'keluar loop
          GoTo keluar_loop
        Else
          If Kombinasi(k) < SumPeluang(k) - 1 Then
            Kombinasi(k) = Kombinasi(k) + 1
            'keluar loop
            GoTo keluar_loop
          End If
        End If
      End If
    Else
      If Kombinasi(k) < SumPeluang(k) - 1 Then
        Kombinasi(k) = Kombinasi(k) + 1
        'keluar loop
        GoTo keluar_loop
      End If
    End If
  Next k
keluar_loop:
  End If
Loop
Next j
Next i
Exit Sub
Proses_salah:
End Sub

```

Form 1 (Input Jumlah Job)

Listing Program Form 1

```

Private Sub Command1_Click()
    On Error GoTo salah_Command1_Click
    If Text1.Text = "" Then
        Text1.Text = ""
        Text1.SetFocus
    ElseIf CInt(Text1.Text) < 1 Or _
        CInt(Text1.Text) > 50 Then
        Text1.Text = ""
        Text1.SetFocus
    Else
        SumJob = CInt(Text1.Text)
        Unload Me
    End If
    Exit Sub
salah_Command1_Click:
    MsgBox ("Ada kesalahan Inputan")
    Text1.Text = ""
    Text1.SetFocus
End Sub

Private Sub Command2_Click()
    On Error GoTo Salah_Command2_Click
    Unload Me
    Exit Sub
Salah_Command2_Click:
    MsgBox ("Ada Kesalahan Proses Manipulasi Data")
End Sub

Private Sub Form_Activate()
    On Error GoTo Salah_Form_Activate
    Text1.SetFocus
    Exit Sub
Salah_Form_Activate:
    MsgBox ("Ada Kesalahan Proses Manipulasi Data")
End Sub

Private Sub Form_Load()
    On Error GoTo Salah_Form_Load
    Text1.Text = SumJob
    Exit Sub
Salah_Form_Load:
    MsgBox ("Ada Kesalahan Proses Manipulasi Data")
End Sub

Private Sub Text1_KeyPress(KeyAscii As Integer)
    On Error GoTo Salah_Text1_KeyPress
    If KeyAscii = 13 Then
        Command1.SetFocus
    ElseIf KeyAscii < 48 Or KeyAscii > 57 Then

```

```
Text1.Text = ""  
Text1.SetFocus  
End If  
Exit Sub  
Salah_Text1_KeyPress:  
MsgBox ("Ada Kesalahan Proses Manipulasi Data")  
End Sub
```



Form 2 (Input Jumlah Operasi)

Listing Program Form 2

```
Private Sub Combo1_Click()
    On Error GoTo salah_combo1_Click
    Text1.Text = SumOperasi(Combo1.ListIndex)
    Exit Sub
salah_combo1_Click:
    MsgBox ("Ada Kesalahan Data Coba Anda Cek Kembali")
    Unload Me
End Sub
```

```
Private Sub Command1_Click()
    On Error GoTo salah_Command1_Click
    If Text1.Text = "" Then
        Text1.Text = ""
        Text1.SetFocus
    ElseIf CInt(Text1.Text) < 1 Or _
        CInt(Text1.Text) > 6 Then
        Text1.Text = ""
        Text1.SetFocus
    Else
        SumOperasi(Combo1.ListIndex) = _
            CInt(Text1.Text)
    End If
    Exit Sub
salah_Command1_Click:
    MsgBox ("Ada kesalahan Inputan")
    Text1.Text = ""
    Text1.SetFocus
End Sub
```

```
Private Sub Command2_Click()
    On Error GoTo Salah_Command2_Click
    Unload Me
    Exit Sub
Salah_Command2_Click:
    MsgBox ("Ada Kesalahan Proses Manipulasi Data")
End Sub
```

```
Private Sub Form_Load()
    On Error GoTo Salah_Form_Load
    Combo1.Clear
    For i = 0 To SumJob - 1 Step 1
        Combo1.List(i) = i + 1
    Next i
    Combo1.ListIndex = 0
    Exit Sub
Salah_Form_Load:
    MsgBox ("Ada Kesalahan Data Coba Anda Cek")
    Unload Me
```

End Sub

Private Sub Text1_KeyPress(KeyAscii As Integer)

On Error GoTo Salah_Text1_KeyPress

If KeyAscii = 13 Then

Command1.SetFocus

ElseIf KeyAscii < 48 Or KeyAscii > 57 Then

Text1.Text = ""

Text1.SetFocus

End If

Exit Sub

Salah_Text1_KeyPress:

MsgBox ("Ada Kesalahan Proses Manipulasi Data")

End Sub



Form 3 (Input Jumlah Mesin Tiap Operasi)

Listing Program Form 3

```

Private Sub Combo1_Click()
    On Error GoTo salah_combo1_Click
    Combo2.Clear
    For i = 0 To SumOperasi(Combo1.ListIndex) - 1 Step 1
        Combo2.List(i) = i + 1
    Next i
    Combo2.ListIndex = 0
    Text1.Text = SumMesinPerJobOperasi(Combo1.ListIndex, Combo2.ListIndex)
Exit Sub
salah_combo1_Click:
    MsgBox ("Ada Kesalahan Data Coba Anda Cek Kembali")
    Unload Me
End Sub

Private Sub Combo2_Click()
    On Error GoTo Salah_Combo2_Click
    Text1.Text = SumMesinPerJobOperasi(Combo1.ListIndex, Combo2.ListIndex)
Exit Sub
Salah_Combo2_Click:
    MsgBox ("Ada Kesalahan Data Coba Anda Cek Kembali")
    Unload Me
End Sub

Private Sub Command1_Click()
    On Error GoTo salah_Command1_Click
    If Text1.Text = "" Then
        Text1.Text = ""
        Text1.SetFocus
    ElseIf CInt(Text1.Text) < 1 Or _
        CInt(Text1.Text) > 6 Then
        Text1.Text = ""
        Text1.SetFocus
    Else
        SumMesinPerJobOperasi(Combo1.ListIndex, Combo2.ListIndex) = CInt(Text1.Text)
    End If
Exit Sub
salah_Command1_Click:
    MsgBox ("Ada kesalahan Inputan")
    Text1.Text = ""
    Text1.SetFocus
End Sub

Private Sub Command2_Click()
    On Error GoTo Salah_Command2_Click
    Unload Me
Exit Sub
Salah_Command2_Click: MsgBox ("Ada Kesalahan Proses Manipulasi Data")
End Sub

```

```

Private Sub Form_Load()
  On Error GoTo Salah_Form_Load
  For i = 0 To SumJob - 1 Step 1
    Combo1.List(i) = i + 1
  Next i
  Combo1.ListIndex = 0
  For i = 0 To SumOperasi(0) - 1 Step 1
    Combo2.List(i) = i + 1
  Next i
  Combo2.ListIndex = 0
  Text1.Text = SumMesinPerJobOperasi(Combo1.ListIndex, Combo2.ListIndex)
Exit Sub
Salah_Form_Load:  MsgBox ("Ada Kesalahan Data Coba Anda Cek")
Unload Me
End Sub

Private Sub Text1_KeyPress(KeyAscii As Integer)
  On Error GoTo Salah_Text1_KeyPress
  If KeyAscii = 13 Then
    Command1.SetFocus
  ElseIf KeyAscii < 48 Or KeyAscii > 57 Then
    Text1.Text = ""
    Text1.SetFocus
  End If
Exit Sub
Salah_Text1_KeyPress:
  MsgBox ("Ada Kesalahan Proses Manipulasi Data")
End Sub

```

Form 4 (Input Nomer dan Waktu Pada Mesin)

Listing Program Form 4

```

Private Sub Combo1_Click()
    On Error GoTo salah_combo1_Click
    'operasi
    Combo2.Clear
    For i = 0 To SumOperasi(Combo1.ListIndex) - 1 Step 1
        Combo2.List(i) = i + 1
    Next i
    Combo2.ListIndex = 0
    'mesin
    Combo3.Clear
    For i = 0 To SumMesinPerJobOperasi(Combo1.ListIndex, Combo2.ListIndex) - 1 Step 1
        Combo3.List(i) = i + 1
    Next i
    Combo3.ListIndex = 0
    Text1.Text = NamaMesin(Combo1.ListIndex, Combo2.ListIndex, Combo3.ListIndex)
    Text2.Text = TimeMesin(Combo1.ListIndex, Combo2.ListIndex, Combo3.ListIndex)
    Exit Sub
salah_combo1_Click:
    MsgBox ("Ada Kesalahan Data Coba Anda Cek Kembali")
    Unload Me
End Sub

Private Sub Combo3_Click()
    On Error GoTo Salah_Combo3_Click
    Text1.Text = NamaMesin(Combo1.ListIndex, Combo2.ListIndex, Combo3.ListIndex)
    Text2.Text = TimeMesin(Combo1.ListIndex, Combo2.ListIndex, Combo3.ListIndex)
    Exit Sub
Salah_Combo3_Click:
    MsgBox ("Ada Kesalahan Data Coba Anda Cek Kembali")
    Unload Me
End Sub

Private Sub Combo2_Click()
    On Error GoTo Salah_Combo2_Click
    'mesin
    Combo3.Clear
    For i = 0 To SumMesinPerJobOperasi(Combo1.ListIndex, Combo2.ListIndex) - 1 Step 1
        Combo3.List(i) = i + 1
    Next i
    Combo3.ListIndex = 0
    Text1.Text = NamaMesin(Combo1.ListIndex, Combo2.ListIndex, Combo3.ListIndex)
    Text2.Text = TimeMesin(Combo1.ListIndex, Combo2.ListIndex, Combo3.ListIndex)
    Exit Sub
Salah_Combo2_Click:
    MsgBox ("Ada Kesalahan Data Coba Anda Cek Kembali")
    Unload Me
End Sub

Private Sub Command1_Click()
    On Error GoTo salah_Command1_Click

```

```

If Text1.Text = "" Or Text2.Text = "" Then
    If Text1.Text = "" Then
        Text1.Text = ""
        Text1.SetFocus
    Else
        Text2.Text = ""
        Text2.SetFocus
    End If
ElseIf CInt(Text1.Text) < 1 Or _
    CInt(Text1.Text) > 100 Then
    Text1.Text = ""
    Text1.SetFocus
Else
    NamaMesin(Combo1.ListIndex, Combo2.ListIndex, Combo3.ListIndex) =
CInt(Text1.Text)
    TimeMesin(Combo1.ListIndex, Combo2.ListIndex, Combo3.ListIndex) =
CInt(Text2.Text)
    End If
Exit Sub
salah_Command1_Click:
    MsgBox ("Ada kesalahan Inputan")
    Text1.Text = ""
    Text2.Text = ""
    Text1.SetFocus
End Sub

Private Sub Command2_Click()
    On Error GoTo Salah_Command2_Click
    Unload Me
    Exit Sub
Salah_Command2_Click:
    MsgBox ("Ada Kesalahan Proses Manipulasi Data")
End Sub

Private Sub Command3_Click()
    On Error GoTo Salah_Command3_Click
    Randomize
    If Combo3.ListIndex <> 0 Then
        Do
            Text2.Text = Int((TimeAcak * Rnd) + 1)
        Loop While Abs(CInt(Text2.Text) - TimeMesin(Combo1.ListIndex, Combo2.ListIndex, 0)) > SelisihAcak
    Else
        Text2.Text = Int((TimeAcak * Rnd) + 1)
    End If
    Exit Sub
Salah_Command3_Click:
    MsgBox ("Ada Kesalahan Proses Manipulasi Data")
End Sub

Private Sub Form_Load()
    On Error GoTo Salah_Form_Load
    'job
    For i = 0 To SumJob - 1 Step 1

```

```

    Combo1.List(i) = i + 1
Next i
Combo1.ListIndex = 0
'operasi
For i = 0 To SumOperasi(Combo1.ListIndex) - 1 Step 1
    Combo2.List(i) = i + 1
Next i
Combo2.ListIndex = 0
'mesin
For i = 0 To SumMesinPerJobOperasi(Combo1.ListIndex, Combo2.ListIndex) - 1 Step 1
    Combo3.List(i) = i + 1
Next i
Combo3.ListIndex = 0
Text1.Text = NamaMesin(Combo1.ListIndex, Combo2.ListIndex, Combo3.ListIndex)
Text2.Text = TimeMesin(Combo1.ListIndex, Combo2.ListIndex, Combo3.ListIndex)
Text3.Text = TimeAcak
Text4.Text = SelisihAcak
If CekAcak Then
    Option1(1).Value = True
    Command3.Enabled = True
Else
    Option1(0).Value = True
    Command3.Enabled = False
End If
Exit Sub
Salah_Form_Load:
MsgBox ("Ada Kesalahan Data Coba Anda Cek")
Unload Me
End Sub

```

```

Private Sub Option1_Click(Index As Integer)
On Error GoTo Salah_Option1_Click
If Index = 0 Then
    Text2.Enabled = True
    Text2.SetFocus
    CekAcak = False
Else
    Text3.Text = TimeAcak
    Text4.Text = SelisihAcak
    Text2.Enabled = False
    CekAcak = True
End If
Exit Sub
Salah_Option1_Click:
MsgBox ("Ada Kesalahan Proses Manipulasi Data")
End Sub

```

```

Private Sub Text1_KeyPress(KeyAscii As Integer)
On Error GoTo Salah_Text1_KeyPress
If KeyAscii = 13 Then
    If Text2.Enabled Then
        Text2.SetFocus
    Else
        Command3.SetFocus
    End If
End Sub

```

```

    End If
    ElseIf KeyAscii < 48 Or KeyAscii > 57 Then
        Text1.Text = ""
        Text1.SetFocus
    End If
    Exit Sub
Salah_Text1_KeyPress:
    MsgBox ("Ada Kesalahan Proses Manipulasi Data")
End Sub

Private Sub Text2_KeyPress(KeyAscii As Integer)
    On Error GoTo Salah_Text2_KeyPress
    If KeyAscii = 13 Then
        Command1.SetFocus
    ElseIf KeyAscii < 48 Or KeyAscii > 57 Then
        Text2.Text = ""
        Text2.SetFocus
    End If
    Exit Sub
Salah_Text2_KeyPress:
    MsgBox ("Ada Kesalahan Proses Manipulasi Data")
End Sub

```



Form 5 (About)

Listing Program Form 5

```
Private Sub Command1_Click()  
    On Error GoTo salah_Command1_Click  
    Unload Me  
    Exit Sub  
salah_Command1_Click:  
    MsgBox ("Ada Kesalahan Proses")  
End Sub
```



Form 7 (Peluang Pada Tiap Job)

Listing Program Form 7

Private Sub Combo1_Click()

```

On Error GoTo salah_combo1_Click
List1(0).Clear
List1(1).Clear
List1(2).Clear
List1(3).Clear
List1(4).Clear
List1(5).Clear
Text1(1).Text = ""
Text1(2).Text = ""
Text1(3).Text = ""
Text1(4).Text = ""
Text1(5).Text = ""
For i = 0 To SumPeluang(CInt(Combo1.ListIndex)) - 1 Step 1
    List1(0).AddItem (i + 1)
    For j = 0 To SumOperasi(CInt(Combo1.ListIndex)) - 1 Step 1
        List1(j + 1).AddItem (UrutPeluang(CInt(Combo1.ListIndex), i, j))
        Text1(j + 1).Text = TimePeluang(CInt(Combo1.ListIndex), j)
    Next j
Next i
Exit Sub
salah_combo1_Click:
    MsgBox ("Ada Kesalahan Proses Manipulasi Data")
End Sub

```

Private Sub Command1_Click()

```

On Error GoTo salah_Command1_Click
Unload Me
Exit Sub
salah_Command1_Click:
    MsgBox ("Ada Kesalahan Proses Manipulasi Data")
End Sub

```

Private Sub Form_Load()

```

On Error GoTo Salah_Form_Load
List1(0).Clear
List1(1).Clear
List1(2).Clear
List1(3).Clear
List1(4).Clear
List1(5).Clear
Text1(1).Text = ""
Text1(2).Text = ""
Text1(3).Text = ""
Text1(4).Text = ""
Text1(5).Text = ""
For i = 0 To SumJob - 1 Step 1

```

```
    Combo1.List(i) = i + 1
Next i
Combo1.ListIndex = 0
Exit Sub
Salah_Form_Load:
    MsgBox ("Ada Kesalahan Proses Manipulasi Data")
    Unload Me
End Sub

Private Sub List1_Click(Index As Integer)
    On Error GoTo Salah_List1_Click
    For j = 1 To SumOperasi(Combo1.ListIndex) Step 1
        List1(j).Selected(List1(Index).ListIndex) = List1(Index).Selected(List1(Index).ListIndex)
    Next j
Exit Sub
Salah_List1_Click:
    MsgBox ("Ada Kesalahan Proses Manipulasi Data")
End Sub
```



Form 8 (Hasil)

Listing Program Form 8

```

Private Sub Command1_Click()
    On Error GoTo salah_Command1_Click
    Unload Me
    Exit Sub
salah_Command1_Click:
    MsgBox ("Ada Kesalahan Proses Manipulasi Data")
End Sub

```

```

Private Sub Form_Load()
    On Error GoTo Salah_Form_Load
    For i = 0 To SumJob - 1 Step 1
        List1.AddItem (i + 1)
        For j = 0 To SumOperasi(i) - 1 Step 1
            List2(j).AddItem (HasilNamaMesin(i, j))
            List3(j).AddItem (HasilTime(i, 0, j))
            List4(j).AddItem (HasilTime(i, 1, j))
        Next j
        For j = SumOperasi(i) To 4 Step 1
            List2(j).AddItem ("-")
            List3(j).AddItem ("-")
            List4(j).AddItem ("-")
        Next j
    Next i
    Text1.Text = HasilTotal
    Exit Sub
Salah_Form_Load:
    MsgBox ("Ada Kesalahan Proses Manipulasi Data")
    Unload Me
End Sub

```

```

Private Sub List1_Click()
    On Error GoTo Salah_List1_Click
    For j = 0 To 4 Step 1
        List2(j).Selected(List1.ListIndex) = _
            List1.Selected(List1.ListIndex)
        List3(j).Selected(List1.ListIndex) = _
            List1.Selected(List1.ListIndex)
        List4(j).Selected(List1.ListIndex) = _
            List1.Selected(List1.ListIndex)
    Next j
    Exit Sub
Salah_List1_Click:
    MsgBox ("Ada Kesalahan Proses Manipulasi Data")
End Sub

```

Form 9 (Gambar)

Listing Program Form 9

Dim TampilBerapa As Integer
 Dim Mulai As Integer
 Dim Akhir As Integer
 'skala grafik
 Dim SkalaBalok As Integer

Sub SetSkalaBalok()

```
On Error GoTo Salah_SetSkalaBalok
If HasilTotal < 101 Then      SkalaBalok = 100
ElseIf HasilTotal < 201 Then  SkalaBalok = 50
ElseIf HasilTotal < 401 Then  SkalaBalok = 25
ElseIf HasilTotal < 501 Then  SkalaBalok = 20
ElseIf HasilTotal < 1001 Then SkalaBalok = 10
ElseIf HasilTotal < 2001 Then SkalaBalok = 5
ElseIf HasilTotal < 2501 Then SkalaBalok = 4
ElseIf HasilTotal < 5001 Then SkalaBalok = 2
ElseIf HasilTotal < 10001 Then SkalaBalok = 1
Else                          SkalaBalok = 0
End If
```

Exit Sub

Salah_SetSkalaBalok:

MsgBox ("Ada Kesalahan Proses Manipulasi Data")

End Sub

Sub TampilGambar()

```
On Error GoTo Salah_TampilGambar
```

Dim konter As Integer

For i = 0 To 20 Step 1

Label1(i).Visible = False

Next i

For i = 0 To 4 Step 1

Shape1(i).Visible = False

Shape2(i).Visible = False

Shape3(i).Visible = False

Shape4(i).Visible = False

Shape5(i).Visible = False

Shape6(i).Visible = False

Shape7(i).Visible = False

Shape8(i).Visible = False

Shape9(i).Visible = False

Shape10(i).Visible = False

Shape11(i).Visible = False

Shape12(i).Visible = False

Shape13(i).Visible = False

Shape14(i).Visible = False

Shape15(i).Visible = False

Shape16(i).Visible = False

Shape17(i).Visible = False

```

Shape18(i).Visible = False
Shape19(i).Visible = False
Shape20(i).Visible = False
Next i
konter = Mulai
Shape21.Visible = True
Shape21.BackColor = WarnaGaris
Shape21.FillColor = WarnaGaris
Shape21.BorderColor = WarnaGaris
Shape21.Width = 10000
Shape21.Height = 250 * 20 * TampilBerapa
Shape21.Top = 2000
Shape21.Left = 1600
Label3.Visible = True
Label4.Visible = True
Label5.Visible = True
Label3.Caption = 0
Label4.Caption = 10000 / SkalaBalok
Label5.Caption = (10000 / SkalaBalok) / 2
Label3.Top = 2000 + (250 * 20)
Label4.Top = 2000 + (250 * 20)
Label5.Top = 2000 + (250 * 20)
Label3.Left = 1600
Label4.Left = 11300
Label5.Left = 6500
For i = 0 To TampilBerapa - 1 Step 1
    Label1(i).Visible = True
    Label1(i).Caption = "Job " + CStr(konter)
    Label1(i).Height = 250
    Label1(i).Width = 1000
    Label1(i).Left = 500
    Label1(i).Top = 250 * (i + 1) + 1750
    For j = 0 To SumOperasi(konter - 1) - 1 Step 1
        Select Case i
            Case 0
                Shape1(j).Visible = True
                Shape1(j).Height = 150
                Shape1(j).Width = SkalaBalok * ((HasilTime(konter - 1, 1, j) - HasilTime(konter - 1, 0, j)) + 1)
                Shape1(j).Top = Label1(i).Top
                Shape1(j).Left = 1500 + (100 - SkalaBalok) + (SkalaBalok * (HasilTime(konter - 1, 0, j)))
                Shape1(j).BackColor = WarnaMesin(HasilNamaMesin(konter - 1, j) - 1)
                Shape1(j).BorderColor = WarnaMesin(HasilNamaMesin(konter - 1, j) - 1)
            Case 1
                Shape2(j).Visible = True
                Shape2(j).Height = 150
                Shape2(j).Width = SkalaBalok * ((HasilTime(konter - 1, 1, j) - HasilTime(konter - 1, 0, j)) + 1)
                Shape2(j).Top = Label1(i).Top
                Shape2(j).Left = 1500 + (100 - SkalaBalok) + (SkalaBalok * (HasilTime(konter - 1, 0, j)))
                Shape2(j).BackColor = WarnaMesin(HasilNamaMesin(konter - 1, j) - 1)
                Shape2(j).BorderColor = WarnaMesin(HasilNamaMesin(konter - 1, j) - 1)
            Case 2
                Shape3(j).Visible = True
                Shape3(j).Height = 150
                Shape3(j).Width = SkalaBalok * ((HasilTime(konter - 1, 1, j) - HasilTime(konter - 1, 0, j)) + 1)
                Shape3(j).Top = Label1(i).Top
                Shape3(j).Left = 1500 + (100 - SkalaBalok) + (SkalaBalok * (HasilTime(konter - 1, 0, j)) - 1)
                Shape3(j).BackColor = WarnaMesin(HasilNamaMesin(konter - 1, j) - 1)
                Shape3(j).BorderColor = WarnaMesin(HasilNamaMesin(konter - 1, j) - 1)
            Case 3
                Shape4(j).Visible = True
                Shape4(j).Height = 150

```

```

Shape4(j).Width = SkalaBalok * ((HasilTime(konter - 1, 1, j) - HasilTime(konter - 1, 0, j)) + 1)
Shape4(j).Top = Label1(i).Top
Shape4(j).Left = 1500 + (100 - SkalaBalok) + (SkalaBalok * (HasilTime(konter - 1, 0, j)))
Shape4(j).BackColor = WarnaMesin(HasilNamaMesin(konter - 1, j) - 1)
Shape4(j).BorderColor = WarnaMesin(HasilNamaMesin(konter - 1, j) - 1)

```

Case 4

```

Shape5(j).Visible = True
Shape5(j).Height = 150
Shape5(j).Width = SkalaBalok * ((HasilTime(konter - 1, 1, j) - HasilTime(konter - 1, 0, j)) + 1)
Shape5(j).Top = Label1(i).Top
Shape5(j).Left = 1500 + (100 - SkalaBalok) + (SkalaBalok * (HasilTime(konter - 1, 0, j)))
Shape5(j).BackColor = WarnaMesin(HasilNamaMesin(konter - 1, j) - 1)
Shape5(j).BorderColor = WarnaMesin(HasilNamaMesin(konter - 1, j) - 1)

```

Case 5

```

Shape6(j).Visible = True
Shape6(j).Height = 150
Shape6(j).Width = SkalaBalok * ((HasilTime(konter - 1, 1, j) - HasilTime(konter - 1, 0, j)) + 1)
Shape6(j).Top = Label1(i).Top
Shape6(j).Left = 1500 + (100 - SkalaBalok) + (SkalaBalok * (HasilTime(konter - 1, 0, j)))
Shape6(j).BackColor = WarnaMesin(HasilNamaMesin(konter - 1, j) - 1)
Shape6(j).BorderColor = WarnaMesin(HasilNamaMesin(konter - 1, j) - 1)

```

Case 6

```

Shape7(j).Visible = True
Shape7(j).Height = 150
Shape7(j).Width = SkalaBalok * ((HasilTime(konter - 1, 1, j) - HasilTime(konter - 1, 0, j)) + 1)
Shape7(j).Top = Label1(i).Top
Shape7(j).Left = 1500 + (100 - SkalaBalok) + (SkalaBalok * (HasilTime(konter - 1, 0, j)))
Shape7(j).BackColor = WarnaMesin(HasilNamaMesin(konter - 1, j) - 1)
Shape7(j).BorderColor = WarnaMesin(HasilNamaMesin(konter - 1, j) - 1)

```

Case 7

```

Shape8(j).Visible = True
Shape8(j).Height = 150
Shape8(j).Width = SkalaBalok * ((HasilTime(konter - 1, 1, j) - HasilTime(konter - 1, 0, j)) + 1)
Shape8(j).Top = Label1(i).Top
Shape8(j).Left = 1500 + (100 - SkalaBalok) + (SkalaBalok * (HasilTime(konter - 1, 0, j)))
Shape8(j).BackColor = WarnaMesin(HasilNamaMesin(konter - 1, j) - 1)
Shape8(j).BorderColor = WarnaMesin(HasilNamaMesin(konter - 1, j) - 1)

```

Case 8

```

Shape9(j).Visible = True
Shape9(j).Height = 150
Shape9(j).Width = SkalaBalok * ((HasilTime(konter - 1, 1, j) - HasilTime(konter - 1, 0, j)) + 1)
Shape9(j).Top = Label1(i).Top
Shape9(j).Left = 1500 + (100 - SkalaBalok) + (SkalaBalok * (HasilTime(konter - 1, 0, j)))
Shape9(j).BackColor = WarnaMesin(HasilNamaMesin(konter - 1, j) - 1)
Shape9(j).BorderColor = WarnaMesin(HasilNamaMesin(konter - 1, j) - 1)

```

Case 9

```

Shape10(j).Visible = True
Shape10(j).Height = 150
Shape10(j).Width = SkalaBalok * ((HasilTime(konter - 1, 1, j) - HasilTime(konter - 1, 0, j)) + 1)
Shape10(j).Top = Label1(i).Top
Shape10(j).Left = 1500 + (100 - SkalaBalok) + (SkalaBalok * (HasilTime(konter - 1, 0, j)))
Shape10(j).BackColor = WarnaMesin(HasilNamaMesin(konter - 1, j) - 1)
Shape10(j).BorderColor = WarnaMesin(HasilNamaMesin(konter - 1, j) - 1)

```

Case 10

```

Shape11(j).Visible = True
Shape11(j).Height = 150
Shape11(j).Width = SkalaBalok * ((HasilTime(konter - 1, 1, j) - HasilTime(konter - 1, 0, j)) + 1)
Shape11(j).Top = Label1(i).Top
Shape11(j).Left = 1500 + (100 - SkalaBalok) + (SkalaBalok * (HasilTime(konter - 1, 0, j)))
Shape11(j).BackColor = WarnaMesin(HasilNamaMesin(konter - 1, j) - 1)
Shape11(j).BorderColor = WarnaMesin(HasilNamaMesin(konter - 1, j) - 1)

```

Case 11

```

Shape12(j).Visible = True
Shape12(j).Height = 150
Shape12(j).Width = SkalaBalok * ((HasilTime(konter - 1, 1, j) - HasilTime(konter - 1, 0, j)) + 1)
Shape12(j).Top = Label1(i).Top
Shape12(j).Left = 1500 + (100 - SkalaBalok) + (SkalaBalok * (HasilTime(konter - 1, 0, j)))
Shape12(j).BackColor = WarnaMesin(HasilNamaMesin(konter - 1, j) - 1)
Shape12(j).BorderColor = WarnaMesin(HasilNamaMesin(konter - 1, j) - 1)

```

Case 12

```
Shape13(j).Visible = True
Shape13(j).Height = 150
Shape13(j).Width = SkalaBalok * ((HasilTime(konter - 1, 1, j) - HasilTime(konter - 1, 0, j)) + 1)
Shape13(j).Top = Label1(i).Top
Shape13(j).Left = 1500 + (100 - SkalaBalok) + (SkalaBalok * (HasilTime(konter - 1, 0, j)))
Shape13(j).BackColor = WarnaMesin(HasilNamaMesin(konter - 1, j) - 1)
Shape13(j).BorderColor = WarnaMesin(HasilNamaMesin(konter - 1, j) - 1)
```

Case 13

```
Shape14(j).Visible = True
Shape14(j).Height = 150
Shape14(j).Width = SkalaBalok * ((HasilTime(konter - 1, 1, j) - HasilTime(konter - 1, 0, j)) + 1)
Shape14(j).Top = Label1(i).Top
Shape14(j).Left = 1500 + (100 - SkalaBalok) + (SkalaBalok * (HasilTime(konter - 1, 0, j)))
Shape14(j).BackColor = WarnaMesin(HasilNamaMesin(konter - 1, j) - 1)
Shape14(j).BorderColor = WarnaMesin(HasilNamaMesin(konter - 1, j) - 1)
```

Case 14

```
Shape15(j).Visible = True
Shape15(j).Height = 150
Shape15(j).Width = SkalaBalok * ((HasilTime(konter - 1, 1, j) - HasilTime(konter - 1, 0, j)) + 1)
Shape15(j).Top = Label1(i).Top
Shape15(j).Left = 1500 + (100 - SkalaBalok) + (SkalaBalok * (HasilTime(konter - 1, 0, j)))
Shape15(j).BackColor = WarnaMesin(HasilNamaMesin(konter - 1, j) - 1)
Shape15(j).BorderColor = WarnaMesin(HasilNamaMesin(konter - 1, j) - 1)
```

Case 15

```
Shape16(j).Visible = True
Shape16(j).Height = 150
Shape16(j).Width = SkalaBalok * ((HasilTime(konter - 1, 1, j) - HasilTime(konter - 1, 0, j)) + 1)
Shape16(j).Top = Label1(i).Top
Shape16(j).Left = 1500 + (100 - SkalaBalok) + (SkalaBalok * (HasilTime(konter - 1, 0, j)))
Shape16(j).BackColor = WarnaMesin(HasilNamaMesin(konter - 1, j) - 1)
Shape16(j).BorderColor = WarnaMesin(HasilNamaMesin(konter - 1, j) - 1)
```

Case 16

```
Shape17(j).Visible = True
Shape17(j).Height = 150
Shape17(j).Width = SkalaBalok * ((HasilTime(konter - 1, 1, j) - HasilTime(konter - 1, 0, j)) + 1)
Shape17(j).Top = Label1(i).Top
Shape17(j).Left = 1500 + (100 - SkalaBalok) + (SkalaBalok * (HasilTime(konter - 1, 0, j)))
Shape17(j).BackColor = WarnaMesin(HasilNamaMesin(konter - 1, j) - 1)
Shape17(j).BorderColor = WarnaMesin(HasilNamaMesin(konter - 1, j) - 1)
```

Case 17

```
Shape18(j).Visible = True
Shape18(j).Height = 150
Shape18(j).Width = SkalaBalok * ((HasilTime(konter - 1, 1, j) - HasilTime(konter - 1, 0, j)) + 1)
Shape18(j).Top = Label1(i).Top
Shape18(j).Left = 1500 + (100 - SkalaBalok) + (SkalaBalok * (HasilTime(konter - 1, 0, j)))
Shape18(j).BackColor = WarnaMesin(HasilNamaMesin(konter - 1, j) - 1)
Shape18(j).BorderColor = WarnaMesin(HasilNamaMesin(konter - 1, j) - 1)
```

Case 18

```
Shape19(j).Visible = True
Shape19(j).Height = 150
Shape19(j).Width = SkalaBalok * ((HasilTime(konter - 1, 1, j) - HasilTime(konter - 1, 0, j)) + 1)
Shape19(j).Top = Label1(i).Top
Shape19(j).Left = 1500 + (100 - SkalaBalok) + (SkalaBalok * (HasilTime(konter - 1, 0, j)))
Shape19(j).BackColor = WarnaMesin(HasilNamaMesin(konter - 1, j) - 1)
Shape19(j).BorderColor = WarnaMesin(HasilNamaMesin(konter - 1, j) - 1)
```

Case 19

```
Shape20(j).Visible = True
Shape20(j).Height = 150
Shape20(j).Width = SkalaBalok * ((HasilTime(konter - 1, 1, j) - HasilTime(konter - 1, 0, j)) + 1)
Shape20(j).Top = Label1(i).Top
Shape20(j).Left = 1500 + (100 - SkalaBalok) + (SkalaBalok * (HasilTime(konter - 1, 0, j)))
Shape20(j).BackColor = WarnaMesin(HasilNamaMesin(konter - 1, j) - 1)
Shape20(j).BorderColor = WarnaMesin(HasilNamaMesin(konter - 1, j) - 1)
```

End Select

Next j

konter = konter + 1

Next i

```
Exit Sub
Salah_TampilGambar:
MsgBox ("Ada Kesalahan Proses Manipulasi Data")
End Sub
```

```
Private Sub Command1_Click()
On Error GoTo salah_Command1_Click
Unload Me
Exit Sub
salah_Command1_Click:
MsgBox ("Ada Kesalahan Proses Manipulasi Data")
End Sub
```

```
Private Sub Command2_Click()
On Error GoTo Salah_Command2_Click
Call SetSkalaBalok
If SkalaBalok <> 0 Then
If Option1(0).Value = True Then
TampilBerapa = 1
Mulai = Combo1.ListIndex + 1
Akhir = Combo1.ListIndex + 1
'Fungsi Tampil Gambar
Call TampilGambar
Else
If Combo2(0).ListIndex > Combo2(1).ListIndex Or _
Combo2(1).ListIndex - Combo2(0).ListIndex > 19 Then
MsgBox ("Anda Salah Input Job yang akan ditampilkan")
Else
TampilBerapa = (Combo2(1).ListIndex + 1) - Combo2(0).ListIndex
Mulai = Combo2(0).ListIndex + 1
Akhir = Combo2(1).ListIndex + 1
'Fungsi Tampil Gambar
Call TampilGambar
End If
End If
Else
MsgBox ("Grafik Tidak Dapat Ditampilkan Karena batas total waktu adalah 10.000")
End If
Exit Sub
Salah_Command2_Click:
MsgBox ("Ada Kesalahan Proses Manipulasi Data")
End Sub
```

```
Private Sub Form_Load()
On Error GoTo Salah_Form_Load
Option1(0).Value = True
Combo1.Enabled = True
Combo2(0).Enabled = False
Combo2(1).Enabled = False
Shape21.Visible = False
Label3.Visible = False
Label4.Visible = False
Label5.Visible = False
For i = 0 To SumJob - 1 Step 1
Combo1.List(i) = i + 1
Next i
Combo1.ListIndex = 0
```

```

TampilBerapa = 1
Mulai = 1
Akhir = 1
For i = 0 To 20 Step 1      Label1(i).Visible = False      Next i
For i = 0 To 4 Step 1
    Shape1(i).Visible = False
    Shape2(i).Visible = False
    Shape3(i).Visible = False
    Shape4(i).Visible = False
    Shape5(i).Visible = False
    Shape6(i).Visible = False
    Shape7(i).Visible = False
    Shape8(i).Visible = False
    Shape9(i).Visible = False
    Shape10(i).Visible = False
    Shape11(i).Visible = False
    Shape12(i).Visible = False
    Shape13(i).Visible = False
    Shape14(i).Visible = False
    Shape15(i).Visible = False
    Shape16(i).Visible = False
    Shape17(i).Visible = False
    Shape18(i).Visible = False
    Shape19(i).Visible = False
    Shape20(i).Visible = False
Next i
Exit Sub
Salah_Form_Load:
MsgBox ("Ada Kesalahan Proses Manipulasi Data")
Unload Me
End Sub

Private Sub Option1_Click(Index As Integer)
On Error GoTo Salah_Option1_Click
If Index = 0 Then
    Combo1.Enabled = True
    Combo2(0).Enabled = False
    Combo2(1).Enabled = False
    For i = 0 To SumJob - 1 Step 1
        Combo1.List(i) = i + 1
    Next i
    Combo1.ListIndex = 0
    TampilBerapa = 1
    Mulai = 1
    Akhir = 1
Else
    Combo1.Enabled = False
    Combo2(0).Enabled = True
    Combo2(1).Enabled = True
    For i = 0 To SumJob - 1 Step 1
        Combo2(0).List(i) = i + 1
        Combo2(1).List(i) = i + 1
    Next i
    Combo2(0).ListIndex = 0
    Combo2(1).ListIndex = 0

```

```
TampilBerapa = 1  
Mulai = 1  
Akhir = 1  
End If  
Exit Sub  
Salah_Option1_Click:  
MsgBox ("Ada Kesalahan Proses Manipulasi Data")  
End Sub
```



Form 10 (Options)

Listing Program Form 10

```

Private Sub Combo1_Click()
    On Error GoTo salah_combo1_Click
    Shape1.FillColor = WarnaMesin(Combo1.ListIndex)
    Exit Sub
salah_combo1_Click:
    MsgBox ("Ada Kesalahan Proses Manipulasi Data")
End Sub

Private Sub Command1_Click()
    On Error GoTo salah_Command1_Click
    cd1.Flags = &H1&
    cd1.ShowColor
    WarnaMesin(Combo1.ListIndex) = cd1.Color
    Shape1.FillColor = WarnaMesin(Combo1.ListIndex)
    Exit Sub
salah_Command1_Click:
    MsgBox ("Ada Kesalahan Proses Manipulasi Data Warna")
End Sub

Private Sub Command2_Click()
    On Error GoTo Salah_Command2_Click
    If Cint(Text1.Text) < Cint(Text2.Text) Then
        MsgBox ("Data pada pengisian Random Salah")
    Else
        TimeAcak = Text1.Text
        SelisihAcak = Text2.Text
        Unload Me
    End If
    Exit Sub
Salah_Command2_Click:
    MsgBox ("Data pada pengisian Random Salah")
End Sub

Private Sub Command3_Click()
    On Error GoTo Salah_Command3_Click
    cd1.Flags = &H1&
    cd1.ShowColor
    WarnaGaris = cd1.Color
    Shape2.FillColor = WarnaGaris
    Exit Sub
Salah_Command3_Click:
    MsgBox ("Ada Kesalahan Proses Manipulasi Data Warna")
End Sub

Private Sub Form_Load()
    On Error GoTo Salah_Form_Load
    Text1.Text = TimeAcak
    Text2.Text = SelisihAcak
    If CekAcak = True Then

```

```

'waktu diacak
Option1(1).Value = True
Text1.Enabled = True
Text2.Enabled = True
Else
'waktu tidak diacak
Option1(0).Value = True
Text1.Enabled = False
Text2.Enabled = False
End If
For i = 0 To 99 Step 1
    Combo1.List(i) = i + 1
Next i
Combo1.ListIndex = 0
Shape1.FillColor = WarnaMesin(0)
Shape2.FillColor = WarnaGaris
Exit Sub
Salah_Form_Load:
MsgBox ("Ada Kesalahan Proses Manipulasi Data")
Unload Me
End Sub

Private Sub Text1_KeyPress(KeyAscii As Integer)
On Error GoTo Salah_Text1_KeyPress
If KeyAscii = 13 Then
    Text2.SetFocus
ElseIf KeyAscii < 48 Or KeyAscii > 57 Then
    Text1.Text = ""
    Text1.SetFocus
End If
Exit Sub
Salah_Text1_KeyPress:
MsgBox ("Ada Kesalahan Proses Manipulasi Data Random")
End Sub

Private Sub Option1_Click(Index As Integer)
On Error GoTo Salah_Option1_Click
Text1.Text = TimeAcak
Text2.Text = SelisihAcak
If Index = 1 Then
    'waktu diacak
    CekAcak = True
    Option1(1).Value = True
    Text1.Enabled = True
    Text2.Enabled = True
Else
    'waktu tidak diacak
    CekAcak = False
    Option1(0).Value = True
    Text1.Enabled = False
    Text2.Enabled = False

```

```

End If
Exit Sub
Salah_Option1_Click:
MsgBox ("Ada Kesalahan Proses Manipulasi Data Random")
End Sub

```

```

Private Sub Text2_KeyPress(KeyAscii As Integer)
On Error GoTo Salah_Text2_KeyPress
If KeyAscii < 48 Or KeyAscii > 57 Then
Text2.Text = ""
Text2.SetFocus
End If
Exit Sub
Salah_Text2_KeyPress:
MsgBox ("Ada Kesalahan Proses Manipulasi Data Random")
End Sub

```

Listing Program Module 1

```

'warna untuk grafik
Public WarnaMesin(100) As Variant
Public WarnaGaris As Variant

'Jumlah job Max 50
Public SumJob As Integer

'Jumlah Operasi tiap job max 5
Public SumOperasi(50) As Integer
'jumlah mesin (job,operasi)
Public SumMesinPerJobOperasi(50, 5) As Integer

'nama mesin(job, operasi, mesin)
Public NamaMesin(50, 5, 5) As Integer
'Time mesin (job,operasi,mesin)
Public TimeMesin(50, 5, 5) As Integer

'nilai random
Public TimeAcak As Integer
'nilai selisih acak
Public SelisihAcak As Integer
'cek acak atau tidak
Public CekAcak As Boolean

'Jumlah Peluang (job)
Public SumPeluang(50) As Integer
'Peluang (job, peluang, operasi)
Public UrutPeluang(50, 1000, 5) As Integer
Public Nama(1000) As Integer
'Time Peluang (job, operasi)
Public TimePeluang(50, 5) As Integer

'hasil time (job, awal=0/akhir=1, operasi)

```

```

Public HasilTime(50, 2, 5) As Integer
Public TempTime(50, 2, 5) As Integer
'waktu total untuk tiap job
Public HasilTotalTime(50) As Integer
Public TempTotalTime(50) As Integer
'nama mesin pada tiap (job, operasi)
Public HasilNamaMesin(50, 5) As Integer
Public TempNamaMesin(50, 5) As Integer
'total waktu yang dibutuhkan
Public HasilTotal As Integer
Public TempTotal As Integer

```

```

'prioritas job ke berapa
Public JobUtama As Integer
Public TempJobUtama As Integer
'prioritas peluang ke berapa dari job
Public PeluangUtama As Integer
Public TempPeluangUtama As Integer
Public Kombinasi(5) As Integer

```

Sub SetWaktu(job\$, Peluang\$, cek\$)

On Error GoTo Salah_SetWaktu

If cek = 0 **Then**

 'untuk waktu pada job utama

 HasilTotal = 0

 JobUtama = job\$

 PeluangUtama = Peluang\$

For i = 0 **To** 50 **Step** 1

 HasilTotalTime(i) = 0

For j = 0 **To** 5 **Step** 1

 HasilNamaMesin(i, j) = 0

For k = 0 **To** 2 **Step** 1

 HasilTime(i, k, j) = 0

Next k

Next j

Next i

For i = 0 **To** SumOperasi(job\$) - 1 **Step** 1

 HasilNamaMesin(job\$, i) = UrutPeluang(job\$, Peluang\$, i)

If i = 0 **Then**

 HasilTime(job\$, 0, i) = 1

 HasilTime(job\$, 1, i) = TimePeluang(job\$, i)

Else

 HasilTime(job\$, 0, i) = HasilTime(job\$, 1, i - 1) + 1

 HasilTime(job\$, 1, i) = TimePeluang(job\$, i) + HasilTime(job\$, 0, i) - 1

End If

Next i

 HasilTotalTime(job\$) = HasilTime(job\$, 1, SumOperasi(job\$) - 1)

 HasilTotal = HasilTotalTime(job\$)

Else

 'untuk waktu pada job ke ...

For i = 0 **To** SumOperasi(job\$) - 1 **Step** 1

 HasilNamaMesin(job\$, i) = UrutPeluang(job\$, Peluang\$, i)

If i = 0 **Then**

 HasilTime(job\$, 0, i) = 1

 HasilTime(job\$, 1, i) = TimePeluang(job\$, i)

```

Else
    HasilTime(job$, 0, i) = HasilTime(job$, 1, i - 1) + 1
    HasilTime(job$, 1, i) = TimePeluang(job$, i) + HasilTime(job$, 0, i) - 1
End If
'cek apakah ada tabrakan dengan job yang lain
For j = 0 To SumJob - 1 Step 1
    If j <> job$ Then
        For k = 0 To SumOperasi(j) - 1 Step 1
            If HasilNamaMesin(job$, i) = HasilNamaMesin(j, k) Then
                If (HasilTime(j, 0, k) >= HasilTime(job$, 0, i) _
                    And HasilTime(j, 0, k) <= HasilTime(job$, 1, i)) _
                    Or (HasilTime(j, 1, k) >= HasilTime(job$, 0, i) _
                        And HasilTime(j, 1, k) <= HasilTime(job$, 1, i)) Then
                    HasilTime(job$, 0, i) = HasilTime(j, 1, k) + 1
                    HasilTime(job$, 1, i) = TimePeluang(job$, i) + HasilTime(job$, 0, i) - 1
                End If
            End If
        Next k
    End If
Next j
Next i
HasilTotalTime(job$) = HasilTime(job$, 1, SumOperasi(job$) - 1)
If HasilTotalTime(job$) > HasilTotal Then
    HasilTotal = HasilTotalTime(job$)
End If
End If
Exit Sub
Salah_SetWaktu:
End Sub

Sub SetWaktuTemp(job$, Peluang$, cek$)
On Error GoTo Salah_SetWaktuTemp
If cek = 0 Then
    'untuk waktu pada job utama
    TempTotal = 0
    TempJobUtama = job$
    TempPeluangUtama = Peluang$
    For i = 0 To 50 Step 1
        TempTotalTime(i) = 0
        For j = 0 To 5 Step 1
            TempNamaMesin(i, j) = 0
            For k = 0 To 2 Step 1
                TempTime(i, k, j) = 0
            Next k
        Next j
    Next i
    For i = 0 To SumOperasi(job$) - 1 Step 1
        TempNamaMesin(job$, i) = UrutPeluang(job$, Peluang$, i)
        If i = 0 Then
            TempTime(job$, 0, i) = 1
            TempTime(job$, 1, i) = TimePeluang(job$, i)
        Else
            TempTime(job$, 0, i) = TempTime(job$, 1, i - 1) + 1
            TempTime(job$, 1, i) = TimePeluang(job$, i) + TempTime(job$, 0, i) - 1
        End If
    Next i

```

```

End If
Next i
TempTotalTime(job$) = TempTime(job$, 1, SumOperasi(job$) - 1)
TempTotal = TempTotalTime(job$)
Else
  'untuk waktu pada job ke ...
  For i = 0 To SumOperasi(job$) - 1 Step 1
    TempNamaMesin(job$, i) = UrutPeluang(job$, Peluang$, i)
    If i = 0 Then
      TempTime(job$, 0, i) = 1
      TempTime(job$, 1, i) = TimePeluang(job$, i)
    Else
      TempTime(job$, 0, i) = TempTime(job$, 1, i - 1) + 1
      TempTime(job$, 1, i) = TimePeluang(job$, i) + TempTime(job$, 0, i) - 1
    End If
    'cek apakah ada tabrakan dengan job yang lain
    For j = 0 To SumJob - 1 Step 1
      If j <> job$ Then
        For k = 0 To SumOperasi(j) - 1 Step 1
          If TempNamaMesin(job$, i) = TempNamaMesin(j, k) Then
            If (TempTime(j, 0, k) >= TempTime(job$, 0, i) _
              And TempTime(j, 0, k) <= TempTime(job$, 1, i)) _
              Or (TempTime(j, 1, k) >= TempTime(job$, 0, i) _
              And TempTime(j, 1, k) <= TempTime(job$, 1, i)) Then
              TempTime(job$, 0, i) = TempTime(j, 1, k) + 1
              TempTime(job$, 1, i) = TimePeluang(job$, i) + TempTime(job$, 0, i) - 1
            End If
          End If
        Next k
      End If
    Next j
  Next i
  TempTotalTime(job$) = TempTime(job$, 1, SumOperasi(job$) - 1)
  If TempTotalTime(job$) > TempTotal Then
    TempTotal = TempTotalTime(job$)
  End If
End If
Exit Sub
Salah_SetWaktuTemp:
End Sub

```

Sub Tukar()

```

On Error GoTo Salah_Tukar
HasilTotal = TempTotal
JobUtama = TempJobUtama
PeluangUtama = TempPeluangUtama
For i = 0 To 50 Step 1
  HasilTotalTime(i) = TempTotalTime(i)
  For j = 0 To 5 Step 1
    HasilNamaMesin(i, j) = TempNamaMesin(i, j)
    For k = 0 To 2 Step 1
      HasilTime(i, k, j) = TempTime(i, k, j)
    Next k
  Next j
Next i

```

Next i
Exit Sub
Salah_Tukar:
End Sub

