BAB V

KESIMPULAN DAN SARAN

5.1. Kesimpulan

Program Estimasi kebutuhan bahan (Estiba) merupakan alat bantu untuk menghitung kebutuhan bahan yang memiliki ukuran panjang., Program ini membantu mengatasi pemotongan yang efisien bahan ukuran standar menjadi ukuran sesuai penggunaan, dengan memperhitungkan pemanfaatan sisa suatu kombinasi potongan untuk penggunaan lain yang lebih kecil. Hasil dari program mempunyai keunggulan cepat dalam penghitungan, mudah dibaca dan diterapkan serta jumlah dan besarnya variabel dapat tak terbatas. Program mempunyai kelemahan solusi yang dihasilkan tidak optimal.

5.2. Saran

Melihat dari kelemahan program dan kekurangan dalam penulisan ini, penulis memberikan saran-saran :

a. Dapat dibuat program sejenis dengan solusi yang optimal
b. Menggabungkan program dengan program lain yang saling mendukung menjadi program manajemen konstruksi yang *powerfull*.
c. Dikembangkan program sejenis untuk menghitung bahan dengan satuan luas

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lampiran

FORM 1

```
Dim panjangMin As Single
Dim cariMin As Single
Dim btsMin As Single
Dim komb() As Single
Dim batas() As Single
Dim ulang() As Single
Dim kombi() As Single
Dim hasilgrid() As Single
Dim kombgrid() As Single
Dim total As Single
Dim pj As Single
Dim pjg As Single
Dim m As Single
Dim h As Single
Dim k As Single
Dim p As Single
Dim q As Single
Dim b As Single
Dim zum() As Single
Dim jumlah() As Single
Dim jauh() As Single
Dim cari() As Single
Dim hasil() As Single
Dim jml As Single
Dim jawabcancel
Dim jawabkeluar
Dim je As Single
Dim bahan As Single
Dim jnsbahan
Dim psnKonfirmasi
Dim kolom As Single
Dim hasilcetak() As Single
Dim kolomi As Single
Dim kombcetak() As Single
Dim tot As Single
Dim simpen
Dim sudahdisimpan As Boolean
Dim jajar As Integer
Dim jajarPrint As Integer
Dim sebanyak As Single
Dim baris As Integer
Dim barisPrint As Integer
Dim kolomibawah As Integer
Dim kolomiatas As Integer
Dim hal As Integer
Dim diameterTul As Single
Dim zuml As Single
Dim zumlberat As Single

Private Sub cmdhapus_Click()
    'MENGHAPUS SEMUA TAMPILAN LAYAR
    Form2.lsttotbahan.Clear
    Txtpjstandar.SetFocus
    Form2.MSFlexGrid1.Clear
    Txtpjstandar.Text = ""
    cmdinput.Enabled = False
    cmdhapus.Enabled = False
    cmdhapus.Default = False
    OptBjtul.Refresh
End Sub
```

```
Private Sub cmdhitung_Click()
ReDim komb(data, 1)
ReDim kombgrid(data + 2, 3)
ReDim kombcetak(data, 1)
ReDim hasilcetak(1)
ReDim batas(data)
ReDim ulang(data)
Form2.lsttotbahan.Clear
Form2.lstberat.Clear
    Call sort 'MEMANGGIL SUB PROSEDUR PENGURUTAN DATA
    panjangMin = 999

'MENCARI DATA PANJANG YANG PALING KECIL
For i = LBound(panjang) To UBound(panjang)
    If panjang(i) < panjangMin Then panjangMin = panjang(i)
Next i

'MENCARI BATAS KOMBINASI
For i = 1 To data
    batas(i) = (standar / panjang(i))
    If batas(i) / Int(batas(i)) = 1 Then
        batas(i) = batas(i)
    Else
        batas(i) = Int(batas(i))
   End If
Next i

k = 1
h = 1
b = 0
pjg = 1
zumlberat = 0
ReDim zum(data)
ReDim jumlah(data)
ReDim jauh(data)
ReDim cari(data)
ReDim hasil(1)
ReDim hasilgrid(3)

'DATA PANJANG DAN BANYAK DISIMPAN SEMENTARA
'SEBAGAI JAUH DAN JUMLAH
For i = 1 To data
    jauh(i) = panjang(i)
    jumlah(i) = banyak(i)
    zuml = panjang(i) * banyak(i)
    zumlberat = zumlberat + zuml
Next i

For g = 1 To 2 * data
If g <= data + b Then
    For j = h To h
        m = 0
        'MENCARI KOMBINASI POTONGAN BAHAN
        'h :BANYAKNYA KOMBINASI
        For i = k To data
            If i <> k And jumlah(i) > 0 Then
                If jauh(i) <= (standar - jauh(k) * batas(k) - m) Then
                    If (jauh(i) * 2) <= (standar - jauh(k) * batas(k) - m) Then
                        For n = 3 To batas(data)
                            If jauh(i) * n >= (standar - jauh(k) * batas(k) - m) Then
                                komb(i, j) = n - 1
```

```
                        n = batas(data)
                    End If
                Next n
            Else
                komb(i, j) = 1
            End If
            m = m + komb(i, j) * jauh(i)
        End If
    Else
        komb(k, j) = batas(k)
    End If
  Next i
btsMin = 999999
cariMin = 999999

For i = 1 To data
  'MENCARI ANGKA :(JUMLAH/KOMBINASI) TERKECIL
  'DALAM SETIAP KOMBINASI POTONGAN
  If komb(i, j) <> 0 Then
    If jumlah(i) > 0 Then
      cari(i) = jumlah(i) / komb(i, j)
      If cari(i) < cariMin Then
        cariMin = cari(i)
      End If
    Else
      cariMin = 0
      Exit For
    End If
  End If
Next i

'MENCARI BANYAK KEBUTUHAN BAHAN TIAP KOMBINASI
For i = 1 To data
  If jumlah(i) > 0 And cariMin <> 0 Then
    If komb(i, j) <> 0 Then
      hasil(j) = cariMin
      If hasil(j) <> 0 Then
        If hasil(j) > 1 Then
          If hasil(j) / Int(hasil(j)) = 1 Then
            hasil(j) = hasil(j)
          Else
            hasil(j) = Int(hasil(j)) + 1
          End If
        Else
          hasil(j) = 1
        End If
      End If
        jumlah(i) = jumlah(i) - hasil(j) * komb(i, j)
          If jumlah(i) < 0 Then jumlah(i) = 0
          End If
  End If
      Form2.List1.AddItem jumlah(i)
Next i
 'MENAMBAH KOMBINASI
For i = 1 To data
  If komb(i, j) <> 0 Then
    If i <> data And jumlah(i) <> 0 Then
      b = b + 1
      k = k - 1
    End If
      Exit For
  End If
```

```
    Next i
    h = h + 1
    k = k + 1
    ReDim Preserve hasil(UBound(hasil) + 1)
    ReDim Preserve komb(data, UBound(komb, 2) + 1)
   Form2.List1.AddItem ""
   Next j
End If
Next g

kolom = h - 1
k = 1
tot = 0
For j = 1 To kolom
    For i = k To k
        If hasil(j) <> 0 Then 'HASIL YANG 0 TIDAK DITAMPILKAN
            ReDim Preserve hasilcetak(UBound(hasilcetak) + 1)
            ReDim Preserve kombcetak(data, UBound(kombcetak, 2) + 1)
            hasilcetak(i) = hasil(j)
            For n = 1 To data
                kombcetak(n, i) = komb(n, j)
            Next n
            tot = tot + hasilcetak(i)
            k = k + 1
        End If
   Next i
Next j

kolomi = k - 1
k = 3
tot = 0
For j = 1 To kolom
    For i = k To k
        If hasil(j) <> 0 Then 'HASIL YANG 0 TIDAK DITAMPILKAN
            ReDim Preserve hasilgrid(UBound(hasilgrid) + 1)
            ReDim Preserve kombgrid(data + 2, UBound(kombgrid, 2) + 1)
            hasilgrid(i) = hasil(j)
            For n = 1 To data
                kombgrid(n + 1, i) = komb(n, j)
            Next n
            tot = tot + hasilgrid(i)
            k = k + 1
        End If
    Next i
Next j
Form2.lsttotbahan.AddItem tot

berat = 0.25 * 22 / 7 * (diameterTul / 1000) ^ 2 * zumlberat * 7850
Form2.lstberat.AddItem berat
Call flexgrid
Form2.Rt1.Text = ""
Call richtextbox
cmdhitung.Enabled = False
cmdhitung.Default = False
Txtpjstandar.Enabled = True
MDIForm1.mnubuka = False
MDIForm1.mnucetak = True
MDIForm1.mnusimpan = True
MDIForm1.mnututup = True
MDIForm1.mnukeluar = True
sudahdisimpan = False
End Sub
```

```
Private Sub cmdinput_Click() 'PERINTAH MEMASUKKAN DATA
On Error GoTo fileerror2
standar = Txtpjstandar.Text
If standar <= 0 Then
    MsgBox "MASUKKAN PANJANG STANDAR LAIN", 0, "DATA SALAH"
    Exit Sub
End If

If standar > bahan Then
   pesen$ = "Anda sudah yakin, Jenis bahan" & jnsbahan & " dan Panjang standar" & standar
   psnKonfirmasi = MsgBox(pesen$, 4, "konfirmasi")
   If psnKonfirmasi = vbNo Then
        cmdhitung.Enabled = False
        cmdhitung.Default = False
        cmdhapus.Enabled = False
        cmdhapus.Default = False
        cmdinput.Enabled = False
        cmdinput.Default = False
        Exit Sub
   End If
End If

On Error GoTo fileerror1
prompt$ = "BANYAK DATA"
data = InputBox(prompt$)
   If data <= 0 Then
        Do
            MsgBox "MASUKKAN JUMLAH DATA LAIN", 0, "DATA SALAH"
            data = InputBox(prompt$)
        Loop Until data > 1
   End If

ReDim panjang(data)
ReDim banyak(data)
For i = 1 To data

lompatan1:
   prompt$ = "PANJANG BAHAN "
   Title$ = "Data" & i
   panjang(i) = InputBox(prompt$, Title$)
   If panjang(i) <= 0 Then
      MsgBox "MASUKKAN DATA LAIN", 0, "DATA SALAH"
      GoTo lompatan1
   End If
   If panjang(i) > standar Then
      MsgBox "DATA HARUS LEBIH KECIL DARI PANJANG STANDAR" & _
      "          MASUKKAN DATA LAIN", 0, "DATA SALAH"
      GoTo lompatan1
   End If

lompatan2:
   prompt$ = "BANYAK"
    Title$ = "Data" & i
    banyak(i) = InputBox(prompt$, Title$)
    If banyak(i) <= 0 Then
     MsgBox "MASUKKAN DATA LAIN", 0, "DATA SALAH"
     GoTo lompatan2
    End If
Next i
```

```
cmdinput.Enabled = False
cmdinput.Default = False
cmdhitung.Enabled = True
cmdhitung.Default = True

fileerror1:
If Err.Number = 13 Then
   jawabcancel = MsgBox("MASUKKAN DATA LAIN ", 4, "DATA SALAH")
   If jawabcancel = vbNo Then
     jawabkeluar = MsgBox("ANDA AKAN KELUAR DARI INPUT", 4, "PESAN KELUAR")
        If jawabkeluar = vbYes Then
            Exit Sub
        End If
   End If
   Resume
End If

fileerror2:
If Err.Number = 13 Then
   MsgBox "MASUKKAN DATA LAIN ", 0, "DATA SALAH"
   Exit Sub
   Resume
End If
End Sub

Sub sort()
'MENGURUTKAN DATA
ReDim urut(data)
ReDim ikut(data)
Dim nyoba As Integer
nyoba = data - 1
For j = 1 To nyoba
   If panjang(j) < panjang(j + 1) Then
        For i = 1 To nyoba
            If panjang(i) < panjang(i + 1) Then
                urut(i) = panjang(i + 1)
                urut(i + 1) = panjang(i)
                panjang(i) = urut(i)
                panjang(i + 1) = urut(i + 1)
                ikut(i) = banyak(i + 1)
                ikut(i + 1) = banyak(i)
                banyak(i) = ikut(i)
                banyak(i + 1) = ikut(i + 1)
            End If
        Next i
        J = j - j
   End If
Next j
End Sub

Private Sub cmdkeluar_Click()
   End
End Sub

Private Sub Form_Load()
   Txtpjstandar.Text = 0
   cmdinput.Enabled = False
   cmdhitung.Enabled = False
   bahan = 999999
End Sub
```

```
Private Sub OptBjtul_Click()
On Error GoTo fileerror2
   Txtpjstandar.Text = 12
   bahan = 12
   jnsbahan = OptBjtul.Caption
   cmdinput.Enabled = True
   cmdinput.Default = True
   prompt$ = "Diameter tulangan (dalam satuan mm)"
   Title$ = "Diameter "
   diameterTul = InputBox(prompt$, Title$)
fileerror2:
    If Err.Number = 13 Then
       Exit Sub
       Resume
    End If
End Sub

Private Sub OptKayu_Click()
   bahan = 4
   Txtpjstandar.Text = 4
   jnsbahan = OptKayu.Caption
   cmdinput.Enabled = True
   cmdinput.Default = True
End Sub

Private Sub OptPipapvc_Click()
   Txtpjstandar.Text = 4
   bahan = 4
   jnsbahan = OptPipapvc.Caption
   cmdinput.Enabled = True
   cmdinput.Default = True
End Sub

Private Sub OptPrfbj_Click()
   Txtpjstandar.Text = 6
   bahan = 6
   jnsbahan = OptPrfbj.Caption
   cmdinput.Enabled = True
   cmdinput.Default = True
End Sub

Private Sub Txtpjstandar_Change()
   cmdinput.Enabled = True
   cmdinput.Default = True
   OptBjtul.Enabled = True
   OptPrfbj.Enabled = True
   OptKayu.Enabled = True
   OptPipapvc.Enabled = True
End Sub

Private Sub Txtpjstandar_GotFocus()
   Txtpjstandar.SelStart = 0
   Txtpjstandar.SelLength = Len(Txtpjstandar.Text)
End Sub

Sub richtextbox() 'MENYIMPAN FILE DALAM RICHTEXTBOX
   simpen = data
   digit = Len(simpen)
   Select Case digit
      Case Is = 1
         Form2.Rt1.Text = Form2.Rt1.Text & "000000" & Trim(Str(data))
      Case Is = 2
```

```
        Form2.Rt1.Text = Form2.Rt1.Text & "00000" & Trim(Str(data))
      Case Is = 3
        Form2.Rt1.Text = Form2.Rt1.Text & "0000" & Trim(Str(data))
      Case Is = 4
        Form2.Rt1.Text = Form2.Rt1.Text & "000" & Trim(Str(data))
    End Select
    simpen = standar
    digit = Len(simpen)
    Select Case digit
      Case Is = 1
        Form2.Rt1.Text = Form2.Rt1.Text & "000000" & Trim(Str(standar))
      Case Is = 2
        Form2.Rt1.Text = Form2.Rt1.Text & "00000" & Trim(Str(standar))
      Case Is = 3
        Form2.Rt1.Text = Form2.Rt1.Text & "0000" & Trim(Str(standar))
      Case Is = 4
        Form2.Rt1.Text = Form2.Rt1.Text & "000" & Trim(Str(standar))
      Case Is = 5
        Form2.Rt1.Text = Form2.Rt1.Text & "00" & Trim(Str(standar))
      Case Is = 6
        Form2.Rt1.Text = Form2.Rt1.Text & "0" & Trim(Str(standar))
      Case Is = 7
        Form2.Rt1.Text = Form2.Rt1.Text & Trim(Str(standar))
    End Select

For i = 1 To 2
    For j = 1 To data
      If i = 1 Then
      simpen = panjang(j)
      digit = Len(simpen)
        If panjang(j) < 1 Then
          Select Case digit
            Case Is = 3
              Form2.Rt1.Text = Form2.Rt1.Text & "00000" & Trim(Str(panjang(j)))
            Case Is = 4
              Form2.Rt1.Text = Form2.Rt1.Text & "0000" & Trim(Str(panjang(j)))
            Case Is = 5
              Form2.Rt1.Text = Form2.Rt1.Text & "000" & Trim(Str(panjang(j)))
            Case Is = 6
              Form2.Rt1.Text = Form2.Rt1.Text & "00" & Trim(Str(panjang(j)))
            Case Is = 7
              Form2.Rt1.Text = Form2.Rt1.Text & "0" & Trim(Str(panjang(j)))
          End Select
        Else
          Select Case digit
            Case Is = 1
              Form2.Rt1.Text = Form2.Rt1.Text & "000000" & Trim(Str(panjang(j)))
            Case Is = 2
              Form2.Rt1.Text = Form2.Rt1.Text & "00000" & Trim(Str(panjang(j)))
            Case Is = 3
              Form2.Rt1.Text = Form2.Rt1.Text & "0000" & Trim(Str(panjang(j)))
            Case Is = 4
              Form2.Rt1.Text = Form2.Rt1.Text & "000" & Trim(Str(panjang(j)))
            Case Is = 5
              Form2.Rt1.Text = Form2.Rt1.Text & "00" & Trim(Str(panjang(j)))
            Case Is = 6
              Form2.Rt1.Text = Form2.Rt1.Text & "0" & Trim(Str(panjang(j)))
            Case Is = 7
              Form2.Rt1.Text = Form2.Rt1.Text & Trim(Str(panjang(j)))
          End Select
        End If
      Else
```

```
            simpen = banyak(j)
            digit = Len(simpen)
             Select Case digit
              Case Is = 1
                 Form2.Rt1.Text = Form2.Rt1.Text & "000000" & Trim(Str(banyak(j)))
              Case Is = 2
                 Form2.Rt1.Text = Form2.Rt1.Text & "00000" & Trim(Str(banyak(j)))
              Case Is = 3
                 Form2.Rt1.Text = Form2.Rt1.Text & "0000" & Trim(Str(banyak(j)))
              Case Is = 4
                 Form2.Rt1.Text = Form2.Rt1.Text & "000" & Trim(Str(banyak(j)))
              Case Is = 5
                 Form2.Rt1.Text = Form2.Rt1.Text & "00" & Trim(Str(banyak(j)))
              Case Is = 6
                 Form2.Rt1.Text = Form2.Rt1.Text & "0" & Trim(Str(banyak(j)))
              Case Is = 7
                 Form2.Rt1.Text = Form2.Rt1.Text & Trim(Str(banyak(j)))
             End Select
          End If
       Next j
    Next i

    simpen = diameterTul
    digit = Len(simpen)
    Select Case digit
       Case Is = 1
          Form2.Rt1.Text = Form2.Rt1.Text & "000000" & Trim(Str(standar))
       Case Is = 2
          Form2.Rt1.Text = Form2.Rt1.Text & "00000" & Trim(Str(standar))
       Case Is = 3
          Form2.Rt1.Text = Form2.Rt1.Text & "0000" & Trim(Str(standar))
       Case Is = 4
          Form2.Rt1.Text = Form2.Rt1.Text & "000" & Trim(Str(standar))
       Case Is = 5
          Form2.Rt1.Text = Form2.Rt1.Text & "00" & Trim(Str(standar))
       Case Is = 6
          Form2.Rt1.Text = Form2.Rt1.Text & "0" & Trim(Str(standar))
       Case Is = 7
          Form2.Rt1.Text = Form2.Rt1.Text & Trim(Str(standar))
    End Select
End Sub

Sub flexgrid() 'MENAMPILKAN DATA DAN HASIL DALAM FLEXGRID
With Form2
.MSFlexGrid1.Cols = k
.MSFlexGrid1.Rows = data + 2
.MSFlexGrid1.Row = 0
.MSFlexGrid1.Col = 0
.MSFlexGrid1.RowSel = data + 1
.MSFlexGrid1.ColSel = k - 1
.MSFlexGrid1.FillStyle = flexFillRepeat
For j = 3 To k - 1
For i = 2 To data + 1
    .MSFlexGrid1.TextMatrix(1, j) = hasilgrid(j)
    .MSFlexGrid1.TextMatrix(i, j) = kombgrid(i, j)
Next i
Next j
no = 1
For i = 1 To data
    .MSFlexGrid1.TextMatrix(i + 1, 0) = no
    .MSFlexGrid1.TextMatrix(i + 1, 1) = panjang(i)
    .MSFlexGrid1.TextMatrix(i + 1, 2) = banyak(i)
```

```
no = no + 1
Next i
.MSFlexGrid1.CellAlignment = flexAlignRightCenter
.MSFlexGrid1.TextMatrix(0, 0) = "No "
.MSFlexGrid1.TextMatrix(0, 1) = "PANJANG "
.MSFlexGrid1.TextMatrix(0, 2) = "BANYAK "
For j = 3 To k - 1
   .MSFlexGrid1.CellAlignment = flexAlignRightCenter
   .MSFlexGrid1.TextMatrix(0, j) = "HASIL"
Next j
.MSFlexGrid1.Row = 1
.MSFlexGrid1.Col = 3
.MSFlexGrid1.RowSel = 1
.MSFlexGrid1.ColSel = k - 1
.MSFlexGrid1.FillStyle = flexFillRepeat
.MSFlexGrid1.CellBackColor = &HFFFFC0
.MSFlexGrid1.Row = 2
.MSFlexGrid1.Col = 3
.MSFlexGrid1.RowSel = data + 1
.MSFlexGrid1.ColSel = k - 1
.MSFlexGrid1.FillStyle = flexFillRepeat
.MSFlexGrid1.CellBackColor = &HC0FFC0
.MSFlexGrid1.Row = 1
.MSFlexGrid1.Col = 0
.MSFlexGrid1.RowSel = data + 1
.MSFlexGrid1.ColSel = 0
.MSFlexGrid1.FillStyle = flexFillRepeat
.MSFlexGrid1.CellBackColor = &H80000009
End With
End Sub

Sub mencetak()
jajar = 0
jajarPrint = 0
baris = 0
barisPrint = 0
conter = 0
kolomibawah = 1
kolomiatas = 0
hal = 1
If Printer.Orientation = vbPRORPortrait Then
   jajarPrint = 9
   barisPrint = 66
Else
   jajarPrint = 15
   barisPrint = 40
End If

If (Int(kolomi / jajarPrint)) / (kolomi / jajarPrint) = 1 Then
   sebanyak = (kolomi / jajarPrint)
Else
   sebanyak = (Int(kolomi / jajarPrint)) + 1
End If
   mgrs = String$(50 + (kolomi * 16), "-")
   Printer.Print ""
   Printer.Print ""
   Printer.Print Tab(20); "halaman"; hal
   Printer.Print ""
   Printer.Print ""
   Printer.Print ""
   Printer.FontSize = 14
   Printer.FontBold = True
```

```
    Printer.Print Tab(20); "ESTIMASI KEBUTUHAN BAHAN"
    Printer.FontBold = False
    Printer.FontSize = 9
Do
    conter = conter + 1
    baris = baris + 1
    If baris > barisPrint Then Call gantihalaman
    If kolomi - kolomiatas > jajarPrint Then
       kolomiatas = jajarPrint * conter
       kolomibawah = kolomiatas - (jajarPrint - 1)
    Else
       If kolomi > jajarPrint Then
          kolomiatas = kolomi
          kolomibawah = kolomibawah + jajarPrint
       Else
          kolomiatas = kolomi
          kolomibawah = 1
       End If
    End If
    Printer.Print Tab(20); mgrs
    baris = baris + 1
    If baris > barisPrint Then Call gantihalaman
    Printer.Print Tab(20); "PANJANG";
    Printer.Print Tab(35); "BANYAK";
    For i = kolomibawah To kolomiatas
       If i <> kolomiatas Then
          Printer.Print Tab(40 + (i - jajarPrint * (conter - 1)) * 10); "HASIL";
       Else
          Printer.Print Tab(40 + (i - jajarPrint * (conter - 1)) * 10); "HASIL"
       End If
    Next i
    baris = baris + 1
    If baris > barisPrint Then Call gantihalaman
    Printer.Print Tab(20); mgrs
    baris = baris + 1
    If baris > barisPrint Then Call gantihalaman
    For i = kolomibawah To kolomiatas
       If i <> kolomiatas Then
          Printer.Print Tab(40 + (i - jajarPrint * (conter - 1)) * 10); hasilcetak(i);
       Else
          Printer.Print Tab(40 + (i - jajarPrint * (conter - 1)) * 10); hasilcetak(i)
       End If
    Next i
    baris = baris + 1
    If baris > barisPrint Then Call gantihalaman
    mgrs1 = String$((kolomi) * 16, "-")
    Printer.Print Tab(50); mgrs1
    baris = baris + 1
    If baris > barisPrint Then Call gantihalaman
    For i = 1 To data
       Printer.Print Tab(20); panjang(i);
       Printer.Print Tab(35); banyak(i);
       For j = kolomibawah To kolomiatas
          If j <> kolomiatas Then
             Printer.Print Tab(40 + (j - jajarPrint * (conter - 1)) * 10); kombcetak(i, j);
          Else
             Printer.Print Tab(40 + (j - jajarPrint * (conter - 1)) * 10); kombcetak(i, j)
          End If
       Next j
       baris = baris + 1
       If baris > barisPrint Then Call gantihalaman
    Next i
```

```
    Printer.Print Tab(20); mgrs
    baris = baris + 1
    If baris > barisPrint Then Call gantihalaman
  Loop Until conter = sebanyak
    Printer.Print Tab(20); "Panjang standar ="; standar;
    Printer.Print Tab(20); "Diamater(khusus baja tulangan) ="; diameterTul; "mm"
    Printer.Print Tab(20); "Total Kebutuhan Bahan ="; tot; "bt"
    Printer.Print Tab(20); "Berat ="; berat; "kg"
    Printer.EndDoc
  End Sub

  Sub gantihalaman()
    baris = 0
    hal = hal + 1
    Printer.NewPage
    Printer.Print ""
    Printer.Print ""
    Printer.Print Tab(20); "halaman"; hal
    Printer.Print ""
    Printer.Print ""
    Printer.Print ""
  End Sub

  Sub menutuplayar()
    If sudahdisimpan = False Then
       pesen$ = "Simpan data yang anda rubah"
       psnKonfirmasi = MsgBox(pesen$, 4, "konfirmasi")
          If psnKonfirmasi = vbYes Then Call menyimpanfile
    End If
    Form2.lsttotbahan.Clear
    Txtpjstandar.SetFocus
    Form2.MSFlexGrid1.Clear
    Txtpjstandar.Text = ""
    cmdinput.Enabled = False
    MDIForm1.mnubuka = True
    MDIForm1.mnucetak = False
    MDIForm1.mnusimpan = False
    MDIForm1.mnututup = False
    MDIForm1.mnukeluar = False
    Unload Form2
  End Sub

  Sub membukafile()
    Dim sFile As String
    With Form2.CommonDialog1
       .DialogTitle = "OPEN"
       .CancelError = True
       On Error GoTo errhandler
       .Filter = "all files(*.*)|*.*"
       .ShowOpen
       If Len(.FileName) = 0 Then
          Exit Sub
       End If
       sFile = .FileName
    End With
    Form2.Rt1.LoadFile sFile
    Call transferData
  errhandler:
  If Err.Number = 13 Then
    Unload Form2
    Form1.Show
    Resume
```

```
End If
End Sub

Sub menyimpanfile()
   Dim namaFile
   Form2.CommonDialog1.CancelError = True
   On Error GoTo errhandler:
   Form2.CommonDialog1.ShowSave
   namaFile = Form2.CommonDialog1.FileName
   Form2.Rt1.SaveFile namaFile
   sudahdisimpan = True
errhandler:
End Sub

Sub transferData()
   Dim ambil As String
   potong = 1
   ambil = Form2.Rt1.Text
      data = Val(Mid(ambil, (potong * 7) - 6, 7))
      potong = potong + 1
      standar = Val(Mid(ambil, (potong * 7) - 6, 7))
      potong = potong + 1
      ReDim panjang(data)
      ReDim banyak(data)
      For j = 1 To data
         panjang(j) = Val(Mid(ambil, (potong * 7) - 6, 7))
         potong = potong + 1
      Next j
      For j = 1 To data
         banyak(j) = Val(Mid(ambil, (potong * 7) - 6, 7))
         potong = potong + 1
      Next j
      diameterTul = Val(Mid(ambil, (potong * 7) - 6, 7))
Call cmdhitung_Click
End Sub

Sub keluar()
   If sudahdisimpan = False Then
      pesen$ = "Simpan data yang anda rubah"
      psnKonfirmasi = MsgBox(pesen$, 4, "konfirmasi")
         If psnKonfirmasi = vbYes Then Call Form1.menyimpanfile
   End If
   End
End Sub

Sub edit()
   Call cmdhitung_Click
End Sub
```

FORM 2

```
Dim posRow As Single
Dim nomer As Single
Dim edit As Integer

Private Sub CmdEdit_Click()
On Error GoTo err2
  Select Case edit
    Case Is = 1
        Title$ = "Edit"
        prompt$ = "masukkan data BANYAK baru"
        posRow = InputBox(prompt$, Title$)
        nomer = TxtEditBanyak.Text
        banyak(nomer) = posRow
        Call Form1.edit
 Case Is = 2
lompatan4:
   Title$ = "Edit"
   prompt$ = "masukkan data PANJANG baru"
   posRow = InputBox(prompt$, Title$)
   nomer = TxtEditPanjang.Text
   panjang(nomer) = posRow
   If posRow <= 0 Then
     MsgBox "MASUKKAN DATA LAIN", 0, "DATA SALAH"
     GoTo lompatan4
   End If
   If posRow > standar Then
     MsgBox "DATA HARUS LEBIH KECIL DARI PANJANG STANDAR" & _
     "          MASUKKAN DATA LAIN", 0, "DATA SALAH"
     GoTo lompatan4
   End If
   Call Form1.edit

 Case Is = 3
   Exit Sub
 End Select
err2:
If errnumber = 13 Then
   Exit Sub
   Resume
End If
TxtEditPanjang.Enabled = True
TxtEditPanjang.Text = ""
TxtEditBanyak.Enabled = True
TxtEditBanyak.Text = ""
CmdEdit.Enabled = False
End Sub

Private Sub Form_Load()
CmdEdit.Enabled = False
End Sub

Private Sub TxtEditBanyak_Change()
On Error GoTo err1
```

```
    If TxtEditBanyak >= 1 And TxtEditBanyak <= data Then
       TxtEditPanjang.Enabled = False
       CmdEdit.Enabled = True
       edit = 1
    Else
       edit = 3
    End If
err1:
If errnumber = 13 Then
    Exit Sub
    Resume
End If
End Sub

Private Sub TxtEditPanjang_Change()
On Error GoTo err1
    If TxtEditPanjang >= 1 And TxtEditPanjang <= data Then
       TxtEditBanyak.Enabled = False
       CmdEdit.Enabled = True
       edit = 2
    Else
       edit = 3
    End If
err1:
If errnumber = 13 Then
    Exit Sub
    Resume
End If
End Sub
```

FORM 3

```
Private Sub Cmdtutup_Click()
SSTab1.Visible = False
Cmdtutup.Visible = False
Unload Form3
MDIForm1.mnubuka.Enabled = True
End Sub

Private Sub Form_Load()
Text2.FontSize = 10
Text2.Text = "ESTIBA adalah program untuk " & _
"menghitung kebutuhan bahan dengan satuan " & _
"panjang. Latar belakangnya adalah adanya " & _
"material yang mempunyai ukuran standar dari " & _
"pabrik, misalnya panjang standar baja tulangan " & _
"12 m, panjang standar profil baja 6 m, panjang standar pipa PVC " & _
"4 m, panjang standar kayu 4 m (umum beredar di " & _
"pasaran). Program ini membantu menghitung " & _
"pemotongan yang efisien bahan ukuran standar " & _
"menjadi ukuran sesuai penggunaan, dengan " & _
"mempertimbangkan pemanfaatan sisa potongan." & _
"Program ini dibuat dengan batasan input data" & _
" sebanyak 7 digit,misalnya 9999999 atau 999,999" & _
" atau 9999,99."
Text1.Text = "Kebutuhan bahan total = 10 + 8 + 8 = 26 bt                " & _
"                                        Model potongan    " & _
"                                                          " & _
"            Hasil 1 = 10 bt dipotong :1 potong 10 m" & _
"                                        " & _
"            Hasil 2 =  8 bt dipotong :2 potong  5 m" & _
"                                        " & _
"            Hasil 3 =  8 bt dipotong :4 potong  3 m" & _
"                                        " & _
"                                        " & _
"                                        " & _
"            ASUMSI :                     " & _
"                                           " & _
"              * TOTAL BAHAN adalah total kebutuhan bahan dalam satuan batang (panjang standar)"
& _
"       * BERAT adalah berat total khusus baja tulangan yang dihitung dari data PANJANG dan data
BANYAK saja bukan berat TOTAL BAHAN "
End Sub

Sub tutupan()
   SSTab1.Visible = False
   Cmdtutup.Visible = False
   Unload Form3
End Sub
```

MDI FORM

```
Option Base 1

Private Sub MDIForm_Load()
mnusimpan.Enabled = False
mnucetak.Enabled = False
mnututup.Enabled = False
mnukeluar.Enabled = False
End Sub

Private Sub mnubantuan_Click()
Form3.Show
End Sub

Private Sub mnucetak_Click()
Form2.CommonDialog1.CancelError = True
Call Form3.tutupan
On Error GoTo errorhandler
   Form2.CommonDialog1.ShowPrinter
   Call Form1.mencetak
errorhandler:
Exit Sub

End Sub

Private Sub mnukeluar_Click()
   Call Form3.tutupan
   Call Form1.keluar
End Sub

Private Sub mnusimpan_Click()
Call Form3.tutupan
Call Form1.menyimpanfile
End Sub

Private Sub mnututup_Click()
Call Form3.tutupan
Call Form1.menutuplayar
End Sub

Private Sub mnubuka_Click()
Call Form3.tutupan
Call Form1.membukafile
End Sub
```

MODULE

```
Option Base 1
Public panjang() As Single
Public banyak() As Integer
Public standar As Single
Public data As Integer
Public berat As Single
```