

LAMPIRAN

LAMPIRAN 1. Listing Program

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//=====
=====
procedure TF_Induk.DtAwlMouseDown(Sender:
TObject; Button: TMouseButton;
Shift: TShiftState; X, Y: Integer);
begin
    DtAwl.Color := clmedgray;
end;
procedure TF_Induk.DtAwlMouseUp(Sender:
TObject; Button: TMouseButton;
Shift: TShiftState; X, Y: Integer);
begin
    DtAwl.Color := clgray;
end;

procedure TF_Induk.DtCHMouseDown(Sender:
TObject; Button: TMouseButton;
Shift: TShiftState; X, Y: Integer);
begin
    DtCH.Color := clmedgray;
end;
procedure TF_Induk.DtCHMouseUp(Sender:
TObject; Button: TMouseButton;
Shift: TShiftState; X, Y: Integer);
begin
    DtCH.Color := clgray;
end;

procedure TF_Induk.DtKl.MouseDown(Sender:
TObject; Button: TMouseButton;
Shift: TShiftState; X, Y: Integer);
begin
    DtKl.Color := clmedgray;
end;
procedure TF_Induk.DtKl.MouseUp(Sender:
TObject; Button: TMouseButton;
Shift: TShiftState; X, Y: Integer);
begin
    DtKl.Color := clgray;
end;

procedure
TF_Induk.DtpelengkapMouseDown(Sender:
TObject; Button: TMouseButton;
Shift: TShiftState; X, Y: Integer);
begin
    Dtpelengkap.Color := clmedgray;
end
procedure
TF_Induk.DtpelengkapMouseUp(Sender: TObject;
Button: TMouseButton;
Shift: TShiftState; X, Y: Integer);
begin
    Dtpelengkap.Color := clgray;
end;

procedure TF_Induk.DtDebitMouseDown(Sender:
TObject; Button: TMouseButton;
Shift: TShiftState; X, Y: Integer);
begin
    DtDebit.Color := clmedgray;
end;
procedure TF_Induk.DtDebitMouseUp(Sender:
TObject; Button: TMouseButton;
Shift: TShiftState; X, Y: Integer);
begin
    DtDebit.Color := clgray;
end;

procedure TF_Induk.hitungMouseDown(Sender:
TObject; Button: TMouseButton;
Shift: TShiftState; X, Y: Integer);
begin
    hitung.Color := clmedgray;
end;
procedure TF_Induk.hitungMouseUp(Sender:
TObject; Button: TMouseButton;
Shift: TShiftState; X, Y: Integer);
begin
    hitung.Color := clgray;
end;

procedure TF_Induk.TblHslMouseDown(Sender:
TObject; Button: TMouseButton;
Shift: TShiftState; X, Y: Integer);
begin
    TblHsl.Color := clmedgray;
end;
procedure TF_Induk.TblHslMouseUp(Sender:
TObject; Button: TMouseButton;
Shift: TShiftState; X, Y: Integer);
begin
    TblHsl.Color := clgray;
end;

procedure TF_Induk.GrafikMouseDown(Sender:
TObject; Button: TMouseButton;
Shift: TShiftState; X, Y: Integer);
begin
    Grafik.Color := clmedgray;
end;
procedure TF_Induk.GrafikMouseUp(Sender:
TObject; Button: TMouseButton;
Shift: TShiftState; X, Y: Integer);
begin
    Grafik.Color := clgray;
end;

procedure TF_Induk.DtAwlClick(Sender: TObject);
begin
    DataAwal1.Click;
end;

procedure TF_Induk.DtCHClick(Sender: TObject);
begin
    DatacurahHujan1.Click;
end;

procedure TF_Induk.DtKLClick(Sender: TObject);
begin
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dataklimatologi1.Click;
end;

procedure TF_Induk.DtDebitClick(Sender: TObject);
begin
    DataDebitlapangan1.Click;
end;

procedure TF_Induk.hitungClick(Sender: TObject);
begin
    Hitung1.Click;
end;

procedure TF_Induk.TblHslClick(Sender: TObject);
begin
    F_induk.TabelHasilAkhir1.Click;
end;

procedure TF_Induk.GrafikClick(Sender: TObject);
begin
    // Fr_Grafik.ShowModal;
end;

procedure TF_Induk.Save1Click(Sender: TObject);
Var i,j,k: integer;
begin
    if f_induk.Caption='Mock - Untitled' then
        begin
            f_induk.simpan.Execute; //SAVEDIALOG
            f_induk.simpan2.Execute;
            NamaFileSimpan:=f_induk.simpan.FileName;

            NamaFileSimpan2:=f_induk.simpan2.FileName;
            end;

            AssignFile(fin, NamaFileSimpan); // Harus
            ada
            rewrite(fin); // Harus ada
            writeln(fin, 'Nama DPS ('+namadps+')');
            writeln(fin, 'Nama Engineer
            ('+namaengineer+')');
            writeln(fin, 'Tanggal Penelitian ('+tanggal+')');
            writeln(fin, 'Luas DPS : ',luasdps:20:5);
            writeln(fin, '
            ===== ');
            writeln(fin, ' namasta', luassta ');
            writeln(fin, '
            ===== ');
            For i:=1 to jmlsta do
                BEGIN
                    writeln(fin, i:jmlsta, namasta[i]:20.
            luassta[i]:12:5);
                END;
            writeln(fin, '
            ===== ');
            writeln(fin, 'Tahun Awal data CH : ', thawlch);
            writeln(fin, 'Tahun Akhir data CH : ',
            thakhrCH);
            writeln(fin, 'Tahun Awal data Klimatologi : ',
            thnawkl);
            writeln(fin, 'Tahun Akhir data Klimatologi : ',
            thnakhrl);

            writeln(fin, 'Koefisien albedo :
            ',kofalbedro:10:3);
            writeln(fin, 'Letak lintang sta klimatologi :
            ',lintang:10:3);

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            writeln(fin, 'Nilai singkapan lahan
            ',singkapanlhn:10:3);
            Closefile(fin); // Harus ada

            //
            =====

            AssignFile(fin2, NamaFileSimpan2); // Harus
            ada
            rewrite(fin2); // Harus ada
            writeln(fin2, 'Nama DPS ('+namadps+')');
            writeln(fin2, ' ');
            writeln(fin2, 'Nama Engineer
            ('+namaengineer+')');
            writeln(fin2, ' ');
            writeln(fin2, 'Tanggal Penelitian
            ('+tanggal+')');
            writeln(fin2, ' ');
            writeln(fin2, 'Luas DPS : ',luasdps);
            writeln(fin2, ' ');
            writeln(fin2, '
            ===== ');
            writeln(fin2, ' namasta', luassta ');
            writeln(fin2, '
            ===== ');
            writeln(fin2, ' ');
            For i:=1 to jmlsta do
                BEGIN
                    writeln(fin2, i:jmlsta, namasta[i]:20.
            luassta[i]:12:5);
                END;
            writeln(fin2, '
            ===== ');
            writeln(fin2, ' ');
            writeln(fin2, 'Tahun Awal data CH : ',
            thawlch);
            writeln(fin2, 'Tahun Akhir data CH : ',
            thakhrCH);
            writeln(fin2, 'Tahun Awal data Klimatologi : ',
            thnawkl);
            writeln(fin2, 'Tahun Akhir data Klimatologi : ',
            thnakhrl);

            For k:=1 to bykdth do
                begin
                    For J:=1 to 12 do
                        begin

                            writeln(fin2,Q[j]:10:3);
                        end;
                    end;
                    writeln(fin2, kofalbedro:10:3);
                    writeln(fin2, lintang:10:3);
                    writeln(fin2, singkapanlhn:10:3);

                    Closefile(fin2); // Harus ada

                end;

            procedure TF_Induk.Open1Click(Sender: TObject);
            begin
                // buka file
                if buka.Execute then
                    begin
                        NM_file_Open := buka.FileName;

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Assignfile(Fout, NM_file_Open); // harus ada
reset(Fout);

end;
end;

procedure TF_Induk.N1Click(Sender: TObject);
var i: integer;
begin
  F_cover.ed_lokasi_studi.Text:= '';
  F_cover.ed_engineer.Text:= '';
  F_cover.ed_tanggal.Text:= '';

  Fdtawal.edCatchmentArea.Text:= floattostr (0) ;
  Fdtawal.edJmlhSta.Text:= inttostr (0) ;
  Fdtawal.edthawich.Text:= inttostr (0) ;
  Fdtawal.edthakhrch.Text:= inttostr (0) ;
  Fdtawal.edthawkl.Text:= inttostr (0) ;
  Fdtawal.edthakhrkl.Text:= inttostr (0) ;

  for i:=1 to jmlsta do
    begin
      Fdtawal.SgSta.Cells[1,i]:= '';
      Fdtawal.SgSta.Cells[2,i]:= '';
    end;

  F_cover.ShowModal;

end;

procedure TF_Induk.TabelHasilAkhir1Click(Sender:
TObject);
begin  fdtblhs1.showmodal; end;

procedure TF_Induk.DataAwal1Click(Sender:
TObject);
begin  FdtAwal.ShowModal; end;

procedure
TF_Induk.DatacurahHujan1Click(Sender: TObject);
begin
  if fdtawal.edJmlhsta.Text='1' then
    begin
      Fdtchbiasa.ShowModal;
    end
  else
    begin
      fdtchbln.ShowModal;
    end.
end;

procedure TF_Induk.FormShow(Sender: TObject);
var i,j,k : integer;
begin
  //++ nama bulan +++
  Bulan[1]:= 'Januari';
  Bulan[2]:= 'Februari';
  Bulan[3]:= 'Maret';
  Bulan[4]:= 'April';
  Bulan[5]:= 'Mei';
  Bulan[6]:= 'Juni';
  Bulan[7]:= 'Juli';
  Bulan[8]:= 'Agustus';
  Bulan[9]:= 'September';
  Bulan[10]:= 'Oktober';
  Bulan[11]:= 'November';
  Bulan[12]:= 'Desember';

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//++ nama data klimatologi ++

jldtkl:=6;
namadtkl[1]:= 'temperatur max rerata (tmax)';
namadtkl[2]:= 'temperatur min rerata (tmin)';
namadtkl[3]:= 'kelembaban max rerata
(RHmax)';
namadtkl[4]:= 'kelembaban min rerata (RHmin)';
namadtkl[5]:= 'kecepatan angin (u)';
namadtkl[6]:= 'sinar matahari terukur (n)';

// ==== Data Pelengkap =====

jldtplgkp:=4;
nmdtplgkp[1]:= 'Jumlah Hari Hujan (JHH)';
nmdtplgkp[2]:= 'Koefisien infiltrasi (if)';
nmdtplgkp[3]:= 'Koefisien resesi (k)';
nmdtplgkp[4]:= 'Ground Water Storage (GSom)';

//$$$$$$$$$$$$ data CH $$$$$$$$$$$$$$$$$
For I:=1 to bykdtCH do
  For J:=1 to 12 do
    For k:=1 to 31 do
      CurahHujanhr[i,j,k] :=0;
  //@@@@ 1992 @@@@@@

  //$$$$$$$$$$$$ data klimatologi
  $$$$$$$$$$$$
  For I:=1 to 6 do //(data ke)
    For J:=1 to 12 do
      For k:=1 to bykdtkl do //(tahun)
        dataklimatologi[i,j,k] :=0;

  //$$$$$$$$$$$$ data Pelengkap
  $$$$$$$$$$$$
  For I:=1 to 4 do //(data ke)
    For J:=1 to 12 do
      For k:=1 to bykdtch do //(tahun)
        dtplengkap[i,j,k] :=0;

  // $$$$$$$$$$$$ data debit terukur di lapangan
  $$$$$$$$$$$$

  for i:= 1 to 12 do
    for j:= 1 to bykdtch do
      dbtlap[i,j] := 0;

end;

procedure TF_Induk.BchClick(Sender: TObject);
begin
  if fdtawal.edJmlhsta.Text='1' then
    Fdtchbiasa.Show;
  else
    fdtchbln.Show;
end;

unit proses;

procedure Tfproses.BitBtn1Click(Sender: TObject);
var i,j,k : integer;
begin
  //===== Hitung curah hujan rerata =====
  if cbCHRT.Checked then
    begin
      if JmlSta=1 then // rerata biasa
        begin

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for K:=1 to bykdtch do
begin
for i:=1 to 12 do
BEGIN
jlhjnbln[i]:=0;
for j:=1 to 31 do
begin
jlhjnbln[i]:=
jlhjnbln[i]+curahhujanhr[k,i,j];
fchrt.SGchRT.cells[i,k]:=
format('%1.5f',(jlhjnbln[i]));
end;
end;
end;
end;

else //+++++ poligin thiessen
begin
for i:=1 to 12 do
BEGIN
for j:=1 to bykdtch do
begin
jlhjnbln[J]:=0;
for K:=1 to jmlsta do
begin
jlhjnbln[J]:=
jlhjnbln[J]+curahhujanbln[k,i,j]*LUASSTA[K]/LUAS
DPS;
fchrt.SGchRT.cells[i,j]:=
format('%1.5f',(jlhjnbln[j]));
end;
end;
end;
end;

//----- hitung klimatologi rerata -----
if CbKLRT.Checked then
begin
// hitung rerata temperatur
for k:=1 to 12 do
begin
tmprt[k]:=0;
for j:=1 to bykdtkl do
BEGIN
for i:=1 to 2 do
begin
tmprt[k]:=
tmprt[k]+(DATAKLIMATOLOGI[i,k,j]/bykdtkl)/2 ;
end;
end;
end;

// hitung rerata kelembaban relatif

for k:=1 to 12 do
begin
klbrt[k]:=0;
for j:=1 to bykdtkl do
BEGIN
for i:=3 to 4 do
begin
klbrt[k]:=klbrt[k]+(DATAKLIMATOLOGI[i,k,j]/bykdtkl)
/2 ;
end;
end;
end;
end;

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// hitung kec angin rerata
for K:=5 to 5 do
begin
for i:=1 to 12 do
BEGIN
kecrt[i]:=0;
for j:=1 to bykdtkl do
begin
kecrt[i]:=kecrt[i]+DATAKLIMATOLOGI[k,i,j]/bykdtkl;
end;
end;
end;

// mencari n (sinar matahari)
for K:=6 to 6 do
begin
for i:=1 to 12 do
BEGIN
pyrt[i]:=0;
for j:=1 to bykdtkl do
begin
pyrt[i]:=pyrt[i]+DATAKLIMATOLOGI[k,i,j]/bykdtkl;
end;
end;
end;

//===== cari n/N rerata =====
if lintang >= 0 then
if lintang < 5 then
begin
for i:=1 to 12 do
for j:=0 to 0 do
begin
xn[j]:=ltu[j+1]-ltu[j];
yn[i,j]:= N[i,j+1]-N[i,j];
xyn[j]:= lintang-ltu[j];
Nx[i,j]:= N[i,j]+(yn[i,j]/xn[j])*xyn[j];
nN [i]:= pyrt[i]/Nx[i,j] ;
end;
end;
end;

end;

//===== hitung Eto =====
if cbeto.Checked then
begin
for i:=1 to 12 do
begin
ea[i]:= 2.132*(tmprt[i]-25)+31.44;
w[i]:= 0.01*(tmprt[i]-26)+0.75;
ft[i]:=
(2.01/1000000000)*exp(4*ln(tmprt[i]+273));
ed[i]:=klbrt[i]*ea[i]/100;
fu[i]:=0.27*(1+(kecrt[i]/100));
end;
end;

// "***** interpolasi linier & Hitung rs *****"
if lintang >= 0 then
if lintang < 2 then
begin
for i:=1 to 12 do
for j:=0 to 0 do
begin

```

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    xu[j]:=lu[j+1]-lu[j];
    yu[i,j]:=Rau[i,j+1]-rau[i,j];
    xyu[j]:=lintang-lu[j];
    raux[i,j]:=rau[i,j]+(yu[i,j]/xu[j])*xyu[j];

    rs[i]:=(0.25+0.54*nn[i]/100)*raux[i,j];

end;
end
//=====
else if lintang >= 2 then
  if lintang < 4 then
    begin
      for i:=1 to 12 do
        for j:=0 to 1 do
          begin

            xu[j]:=lu[j+1]-lu[j];
            yu[i,j]:=Rau[i,j+1]-rau[i,j];
            xyu[j]:=lintang-lu[j];
            raux[i,j]:=rau[i,j]+(yu[i,j]/xu[j])*xyu[j];
            rs[i]:=(0.25+0.54*nn[i]/100)*raux[i,j];

          end;
        end
      end
    end
  else if lintang >= 4 then
    if lintang < 6 then
      begin
        for i:=1 to 12 do
          for j:=0 to 2 do
            begin

              xu[j]:=lu[j+1]-lu[j];
              yu[i,j]:=Rau[i,j+1]-rau[i,j];
              xyu[j]:=lintang-lu[j];
              raux[i,j]:=rau[i,j]+(yu[i,j]/xu[j])*xyu[j];

              rs[i]:=(0.25+0.54*nn[i]/100)*raux[i,j];

            end;
          end
        end
      end
    end
  else if lintang >= 6 then
    if lintang < 8 then
      begin
        for i:=1 to 12 do
          for j:=0 to 3 do
            begin

              xu[j]:=lu[j+1]-lu[j];
              yu[i,j]:=Rau[i,j+1]-rau[i,j];
              xyu[j]:=lintang-lu[j];
              raux[i,j]:=rau[i,j]+(yu[i,j]/xu[j])*xyu[j];

              rs[i]:=(0.25+0.54*nn[i]/100)*raux[i,j];

            end;
          end
        end
      end
    end
  else if lintang >= 8 then
    if lintang < 10 then
      begin
        for i:=1 to 12 do
          for j:=0 to 4 do
            begin

              xu[j]:=lu[j+1]-lu[j];
              yu[i,j]:=Rau[i,j+1]-rau[i,j];

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            xyu[j]:=lintang-lu[j];
            raux[i,j]:=rau[i,j]+(yu[i,j]/xu[j])*xyu[j];

            rs[i]:=(0.25+0.54*nn[i]/100)*raux[i,j];

          end;
        end
      end
    end
  else if lintang >= 10 then
    if lintang < 12 then
      begin
        for i:=1 to 12 do
          for j:=0 to 5 do
            begin

              xu[j]:=lu[j+1]-lu[j];
              yu[i,j]:=Rau[i,j+1]-rau[i,j];
              xyu[j]:=lintang-lu[j];
              raux[i,j]:=rau[i,j]+(yu[i,j]/xu[j])*xyu[j];
              rs[i]:=(0.25+0.54*nn[i]/100)*raux[i,j];

            end;
          end
        end
      end
    end
  else if lintang >= 12 then
    if lintang < 14 then
      begin
        for i:=1 to 12 do
          for j:=0 to 6 do
            begin

              xu[j]:=lu[j+1]-lu[j];
              yu[i,j]:=Rau[i,j+1]-rau[i,j];
              xyu[j]:=lintang-lu[j];
              raux[i,j]:=rau[i,j]+(yu[i,j]/xu[j])*xyu[j];
              rs[i]:=(0.25+0.54*nn[i]/100)*raux[i,j];

            end;
          end
        end
      end
    end
  else if lintang >= 14 then
    if lintang < 16 then
      begin
        for i:=1 to 12 do
          for j:=0 to 7 do
            begin

              xu[j]:=lu[j+1]-lu[j];
              yu[i,j]:=Rau[i,j+1]-rau[i,j];
              xyu[j]:=lintang-lu[j];
              raux[i,j]:=rau[i,j]+(yu[i,j]/xu[j])*xyu[j];
              rs[i]:=(0.25+0.54*nn[i]/100)*raux[i,j];

            end;
          end
        end
      end
    end
  else if lintang >= 16 then
    if lintang < 18 then
      begin
        for i:=1 to 12 do
          for j:=0 to 8 do
            begin

              xu[j]:=lu[j+1]-lu[j];
              yu[i,j]:=Rau[i,j+1]-rau[i,j];
              xyu[j]:=lintang-lu[j];
              raux[i,j]:=rau[i,j]+(yu[i,j]/xu[j])*xyu[j];
              rs[i]:=(0.25+0.54*nn[i]/100)*raux[i,j];

            end;
          end
        end
      end
    end
  else if lintang >= 18 then
    if lintang < 20 then

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begin
for i:=1 to 12 do
for j:=0 to 9 do
begin
xu[j]:=lu[j+1]-lu[j];
yu[i,j]:= Rau[i,j+1]-rau[i,j];
xyu[j]:= lintang-lu[j];
raux[i,j]:= rau[i,j]+(yu[i,j]/xu[j])*xyu[j];
rs[i]:=(0.25+0.54*nn[i]/100)*raux[i,j];
end;
end;
//=====
else if lintang >= 20 then
if lintang < 22 then
begin
for i:=1 to 12 do
for j:=0 to 10 do
begin
xu[j]:=lu[j+1]-lu[j];
yu[i,j]:= Rau[i,j+1]-rau[i,j];
xyu[j]:= lintang-lu[j];
raux[i,j]:= rau[i,j]+(yu[i,j]/xu[j])*xyu[j];
rs[i]:=(0.25+0.54*nn[i]/100)*raux[i,j];
end;
end;
//=====
else if lintang >= 22 then
if lintang < 24 then
begin
for i:=1 to 12 do
for j:=0 to 11 do
begin
xu[j]:=lu[j+1]-lu[j];
yu[i,j]:= Rau[i,j+1]-rau[i,j];
xyu[j]:= lintang-lu[j];
raux[i,j]:= rau[i,j]+(yu[i,j]/xu[j])*xyu[j];
rs[i]:=(0.25+0.54*nn[i]/100)*raux[i,j];
end;
end;
//=====
else if lintang >= 24 then
if lintang < 26 then
begin
for i:=1 to 12 do
for j:=0 to 12 do
begin
xu[j]:=lu[j+1]-lu[j];
yu[i,j]:= Rau[i,j+1]-rau[i,j];
xyu[j]:= lintang-lu[j];
raux[i,j]:= rau[i,j]+(yu[i,j]/xu[j])*xyu[j];
rs[i]:=(0.25+0.54*nn[i]/100)*raux[i,j];
end;
end;
//=====
else if lintang >= 26 then
if lintang < 28 then
begin
for i:=1 to 12 do
for j:=0 to 13 do
begin
xu[j]:=lu[j+1]-lu[j];
yu[i,j]:= Rau[i,j+1]-rau[i,j];
xyu[j]:= lintang-lu[j];
raux[i,j]:= rau[i,j]+(yu[i,j]/xu[j])*xyu[j];
rs[i]:=(0.25+0.54*nn[i]/100)*raux[i,j];
end;
end;
//=====

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else if lintang >= 28 then
if lintang < 30 then
begin
for i:=1 to 12 do
for j:=0 to 14 do
begin
xu[j]:=lu[j+1]-lu[j];
yu[i,j]:= Rau[i,j+1]-rau[i,j];
xyu[j]:= lintang-lu[j];
raux[i,j]:= rau[i,j]+(yu[i,j]/xu[j])*xyu[j];
rs[i]:=(0.25+0.54*nn[i]/100)*raux[i,j];
end;
end;
//=====
else if lintang >= 30 then
if lintang < 32 then
begin
for i:=1 to 12 do
for j:=0 to 15 do
begin
xu[j]:=lu[j+1]-lu[j];
yu[i,j]:= Rau[i,j+1]-rau[i,j];
xyu[j]:= lintang-lu[j];
raux[i,j]:= rau[i,j]+(yu[i,j]/xu[j])*xyu[j];
rs[i]:=(0.25+0.54*nn[i]/100)*raux[i,j];
end;
end;
//=====
else if lintang >= 32 then
if lintang < 34 then
begin
for i:=1 to 12 do
for j:=0 to 16 do
begin
xu[j]:=lu[j+1]-lu[j];
yu[i,j]:= Rau[i,j+1]-rau[i,j];
xyu[j]:= lintang-lu[j];
raux[i,j]:= rau[i,j]+(yu[i,j]/xu[j])*xyu[j];
rs[i]:=(0.25+0.54*nn[i]/100)*raux[i,j];
end;
end;
//=====
else if lintang >= 34 then
if lintang < 36 then
begin
for i:=1 to 12 do
for j:=0 to 17 do
begin
xu[j]:=lu[j+1]-lu[j];
yu[i,j]:= Rau[i,j+1]-rau[i,j];
xyu[j]:= lintang-lu[j];
raux[i,j]:= rau[i,j]+(yu[i,j]/xu[j])*xyu[j];
rs[i]:=(0.25+0.54*nn[i]/100)*raux[i,j];
end;
end;
//=====
else if lintang >= 36 then
if lintang < 38 then
begin
for i:=1 to 12 do
for j:=0 to 18 do
begin
xu[j]:=lu[j+1]-lu[j];

```

```

    yu[i,j]:= Rau[i,j+1]-rau[i,j];
    xyu[j]:= lintang-lu[j];
    raux[i,j]:= rau[i,j]+(yu[i,j]/xu[j])*xyu[j];
    rs[i]:=(0.25+0.54*nn[i]/100)*raux[i,j];

    end;
end
//=====
else if lintang >= 38 then
if lintang < 40 then
begin
for i:=1 to 12 do
for j:=0 to 19 do
begin
xu[j]:=lu[j+1]-lu[j];
yu[i,j]:= Rau[i,j+1]-rau[i,j];
xyu[j]:= lintang-lu[j];
raux[i,j]:= rau[i,j]+(yu[i,j]/xu[j])*xyu[j];
rs[i]:=(0.25+0.54*nn[i]/100)*raux[i,j];
end;
end
//=====
else if lintang >= 40 then
if lintang < 42 then
begin
for i:=1 to 12 do
for j:=0 to 20 do
begin
xu[j]:=lu[j+1]-lu[j];
yu[i,j]:= Rau[i,j+1]-rau[i,j];
xyu[j]:= lintang-lu[j];
raux[i,j]:= rau[i,j]+(yu[i,j]/xu[j])*xyu[j];
rs[i]:=(0.25+0.54*nn[i]/100)*raux[i,j];
end;
end
//=====
else if lintang >= 42 then
if lintang < 44 then
begin
for i:=1 to 12 do
for j:=0 to 21 do
begin
xu[j]:=lu[j+1]-lu[j];
yu[i,j]:= Rau[i,j+1]-rau[i,j];
xyu[j]:= lintang-lu[j];
raux[i,j]:= rau[i,j]+(yu[i,j]/xu[j])*xyu[j];
rs[i]:=(0.25+0.54*nn[i]/100)*raux[i,j];
end;
end
//=====
else if lintang >= 44 then
if lintang < 46 then
begin
for i:=1 to 12 do
for j:=0 to 22 do
begin
xu[j]:=lu[j+1]-lu[j];
yu[i,j]:= Rau[i,j+1]-rau[i,j];
xyu[j]:= lintang-lu[j];
raux[i,j]:= rau[i,j]+(yu[i,j]/xu[j])*xyu[j];
rs[i]:=(0.25+0.54*nn[i]/100)*raux[i,j];
end;
end
//=====
else if lintang >= 46 then
if lintang < 48 then

```

```

begin
for i:=1 to 12 do
for j:=0 to 23 do
begin
xu[j]:=lu[j+1]-lu[j];
yu[i,j]:= Pau[i,j+1]-rau[i,j];
xyu[j]:= lintang-lu[j];
raux[i,j]:= rau[i,j]+(yu[i,j]/xu[j])*xyu[j];
rs[i]:=(0.25+0.54*nn[i]/100)*raux[i,j];
end;
end
//=====
else if lintang >= 48 then
if lintang < 50 then
begin
for i:=1 to 12 do
for j:=0 to 24 do
begin
xu[j]:=lu[j+1]-lu[j];
yu[i,j]:= Rau[i,j+1]-rau[i,j];
xyu[j]:= lintang-lu[j];
raux[i,j]:= rau[i,j]+(yu[i,j]/xu[j])*xyu[j];
rs[i]:=(0.25+0.54*nn[i]/100)*raux[i,j];
end;
end
//=====
else
begin
for i:=1 to 12 do
for j:=0 to 25 do
begin
xu[j]:=lu[j+1]-lu[j];
yu[i,j]:= Rau[i,j+1]-rau[i,j];
xyu[j]:= lintang-lu[j];
raux[i,j]:= rau[i,j]+(yu[i,j]/xu[j])*xyu[j];
rs[i]:=(0.25+0.54*nn[i]/100)*raux[i,j];
end;
end;
//+++++++ Rns ++++++
for i:=1 to 12 do
begin
rns[i]:=(1-(kofalbedro/100))*rs[i];
fed[i]:=0.34-(0.044*exp(0.5*ln(ed[i])));
fnn[i]:=0.1+0.9*nn[i]/100;
rnl[i]:=ft[i]*fed[i]*fnn[i];
c[i]:=0.03*(rs[i]-6)+0.92;
etort[i]:=(c[i]*w[i]*(rns[i]-rnl[i]))+(1-
w[i])*fu[i]*(ea[i]-ed[i])*jh[i]; // mm/hari
end;
end;
if cbqmock.Checked then
begin
// = hitung evapotranspirasi terbatas (et) ==
For I:=1 to jldtplgkp do
For J:=1 to 12 do
For k:=1 to bykdtch do
begin
eep[j]:=((singkapanlhn/100)/20)*(18-
dtplengkap[1,j,k]);
e[j]:=etort[j]*eep[j];
et[j]:=etort[j]-e[j];

jlhjhnbIn[j]:=strtofloat(fchrt.SGchRT.Cells[j,k]);
ws[j]:=jlhjhnbIn[j]-et[j]; // water surplus

```



```

Infl[j]:=ws[j]*(dtplengkap[2,j,k]); //infiltrasi
Gsn[j]:=(0.5*(1+dtplengkap[3,j,k])*Infl[j])+((dtplengkap[3,j,k])*dtplengkap[4,j,k]);
deltags[j]:=Gsn[j]-dtplengkap[4,j,k];
bf[j]:=Infl[j]-deltags[j]; //base flow
dro[j]:= ws[j]-Infl[j]; // direct run off
tro[j]:=bf[j]+dro[j]; // total run off
Q[j]:= tro[j]*luasDPS/(24*60*60*jh[j])*1000;
// debit aliran

FQ.sGmock.Cells[J,K]:=format('%1.3f',{Q[J]});

```

```

end;
close;
end;

procedure Tfproses.BitBtn2Click(Sender: TObject);
begin
close;
end;

end.

```