Subject: Re: Tip for matching BEGIN/ENDs in editors.
Posted by grunes on Wed, 11 Jan 1995 20:01:27 GMT
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In article <Pine.SOL.3.91.950111111010.6577A-100000@chroma> Russ Welti
<rwelti@chroma.mbt.washington.edu> writes:
> If your editor supports a matching function for characters
> such as '(' '{' '[' etc. (e.g. the % key in vi) then you
> might like this little technique I started using one day
> when I could not find the matching END for an IDL construct.
...

Personally I would rather have a program to diagram them for me.

I assume you have a Fortran compiler (-:

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----------------------------CUT HERE--------------------------------
      program diagrami
c Diagrams IDL if-else-elseif-endif and do-enddo constructs.
c Program by Mitchell R Grunes, ATSC/NRL.
c Note--this is a quick and dirty attempt--may not always work quite right.
c It is assumed that no fortran carriage control exists.

c Versions: To diagram Fortran: diagram.for
c                  IDL:    diagrami.for
c                  C:      diagramc.for

      implicit integer*2 (i-n)
      character*160 a,b
      character*16 aa
      character*5 form
      character*1 c
      logical find
      external find
      common icol
      print*,'IDL source filename?'
      a=' '
      read(*,1)a(1:132)
1      format(a132)
      open(1,file=a,status='old')
      print*,'output file?'
      b=' '
      read(*,1)b(1:132)
      open(2,file=b)
c last minute change to reduce spaces in diagram block:
c      print*,'column for line #(60 for screen,91 for laser,112 for print,0 for none)?'
      print*,'column for line #(68 for screen,99 for laser,'
      print*,' 120 for print,0 for none)?'
```

```
      iline=0
      read*,iline
cwrite(2,*)a
 cwrite(2,*)'********************************************** **************'
      aa='| | | | | | | | | | | | | | | | | | | | | | | | |'
      i1=0          !# of nest levels before current line
      i2=0          !# of nest levels on  current line
      i3=0          !# of nest levels after current line
      i4=0          !1 to flag start or end of block
      InSub=0       !Inside a procedure or function?
      nline=0
      iunit=1
10     read(iunit,11,end=99)a
11     format(a160)
      nline=nline+1
      if(nline/100*100.eq.nline)print*,'Line ',nline

      b=' '         !turn tabs to spaces
      j=1
      do i=1,160
        if(a(i:i).eq.char(9))then
          j=(j-1)/8*8+8+1
        elseif(j.le.160)then
          b(j:j)=a(i:i)
          j=j+1
        endif
      enddo
      a=b
      b=' '
      i=1
      j=1
      dowhile(i.le.160.and.j.le.160)  !handle upper case
        c=a(i:i)
        b(j:j)=c
        j=j+1
        i=i+1
      enddo
      a=' '
      iquote=0              !no ' yet
      idquote=0             !no " yet
      do i=1,160
        c=b(i:i)
        if(c.ge.'A'.and.c.le.'Z')c=char(ichar(c)+32)
        if(c.eq.";")goto 15
        if(c.eq."'".and.i.ne.6)iquote=1-iquote
        if(c.eq."".and.i.ne.6)idquote=1-idquote
        if(iquote.eq.1)then
          if(find(a,'include ',1))then
```

```
          iquote=0
          idquote=0
        endif
      endif
      if(iquote.ne.0.or.idquote.ne.0)c=' '
      a(i:i)=c
    enddo
15    i2=i1
    i3=i1
    i4=0
    iflag=0        !no goto on line
    if(find(a,'goto',0))iflag=1
    if(find(a,'include ',1))then
      a=a(icol:160)
      if(.not.find(a,"",0))goto 16
      a=a(icol:160)
      if(.not.find(a,"",0))goto 16
      a(icol-1:160)=' '
      close(3)
      open(3,file=a,status='old')
      iunit=3
      nlinesave=nline
      i2=i2+1
      i3=i3+1
      i4=i4+1
16      continue
    elseif(find(a,'begin ',0))then
      i4=i4+1
      if(.not.find(a,'else',0))then
        i2=i2+1
        i3=i3+1
      endif
    elseif(find(a,'endif ',1).or.find(a,'endfor ',1)
   &  .or.find(a,'endelse ',1).or.find(a,'endwhile ',1))then
      i3=i3-1
      i4=i4+1
    elseif(find(a,'function ',1).or.find(a,'pro ',1))then
      i2=i2+1
      i3=i3+1
      i4=i4+1
      InSub=1
      if(i3.ne.1)then
        PRINT*,'*******ERROR--INVALID DIAGRAMMING INDEX!*******'
        WRITE(2,*)'*******ERROR--INVALID DIAGRAMMING INDEX!******'
        print*,char(7)
      endif
      i3=1
    elseif(find(a,'end    ',1))then
```

```
        if(InSub.ne.0)then
          i3=i3-1
          i4=i4+1
          InSub=0
        endif
        if(i3.ne.0)then
          PRINT*,'*******ERROR--INVALID DIAGRAMMING INDEX!*******'
          WRITE(2,*)'*******ERROR--INVALID DIAGRAMMING INDEX!******'
          print*,char(7)
        endif
        i3=0
      endif
20     a=' '
      if(i1.lt.0.or.i2.lt.0.or.i3.lt.0.or.i4.lt.0)then
        PRINT*,
     &  '*********ERROR--INVALID DIAGRAMMING INDEX!*********'
        WRITE(2,*)
     &  '*********ERROR--INVALID DIAGRAMMING INDEX!*********'
        print*,char(7)
        i1=max(i1,0)
        i2=max(i2,0)
        i3=max(i3,0)
        i4=max(i4,0)
      endif
      jj=max(1,min(16,2*i2-1))
      if(i2.gt.0)a=aa(1:jj)
      if(i4.ne.0)then
        jjj=1
        dowhile(jjj.lt.160.and.b(jjj:jjj).eq.' ')
          jjj=jjj+1
        enddo
        if(jjj.gt.1)b(1:jjj-1)=
     &   '------------------------------------------------'
        a(jj:16)='------------------------------'
      endif
      do i=0,i4-1
        a(max(1,min(15,jj-i*2)):max(1,min(15,jj+1-i*2)))='+-'
      enddo
      if(iline.ne.0.and.b(max(1,iline):160).eq.' ')then
        write(form,'(i5)')nline                    !line #
        if(nline.eq.0)write(form,'(i5)')nlinesave
        if(form(1:1).eq.' ')form(1:1)='|'
        b(iline:iline+4)=form
      endif
      n=160
      dowhile(n.gt.1.and.b(n:n).eq.' ')
        n=n-1
      enddo
```

```
      if(iflag.ne.0)a(1:1)='*'
c last minute change to reduce spaces in diagram block:
      write(2,2)(a(i:i),i=1,15,2),(b(i:i),i=1,n)
2      format(132a1)
      i1=i3
      goto 10
99     if(iunit.eq.3)then
       iunit=1
       nline=nlinesave
       i1=i1-1
       close(3)
       goto 10
      endif
      end
ccccccccccccccccc
      logical function find(a,b,iflag)  !find b in a.
                                ! if iflag.ne.0, must be first
                                ! non-blank in a.
      implicit integer*2 (i-n)
      integer iflag
      character*(*) a,b
      common icol
      ii=len(a)
      jj=len(b)
      do i=1,ii-jj+1
       if(a(i:i+jj-1).eq.b)then
        icol=i+jj                ! icol=colomn after item found
        if(i.gt.1.and.iflag.ne.0)then
         if(a(1:i-1).eq.' ')goto 10
        else
         goto 10
        endif
       endif
      enddo
      find=.false.
      return

10     find=.true.
      return
      end
----------------------------CUT HERE--------------------------------
```