
Subject: diagrami: Simple Diagrammer for IDL & PV-Wave Language
Programs--bug fix
Posted by [grunes](#) on Fri, 10 Mar 1995 20:19:16 GMT
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Archive-name: diagrami
Submitted-by: grunes@nrlvax.nrl.navy.mil (Mitchell R Grunes)

****diagrami: Simple Diagrammer for IDL & PV-Wave Language Programs****

This is an update, which fixes minor bugs.

Sorry, little or no help can be provided for this program--
and I would need an example of where it failed.
DO NOT POST responses to newsgroups--especially not alt.sources.
If anyone finds this useful, tell me.

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program diagrami !Diagrammer for IDL and PV-Wave

c EXAMPLE OF OUTPUT:

```
c  +-----pro Sample,a,b,c                | 1
c  |      a=indgen(15)^2                    | 2
c  |+-----if a eq b then begin            | 3
c  ||      print,'A equals B'                | 4
c  ||      c=0                              | 5
c  |+-----else begin                      | 6
c  ||      print,'A does not equal B'        | 7
c  ||      c=1                              | 8
c  |+-----endif                          | 9
c  +-----end                             | 10
```

c Diagrams IDL and PV-Wave begin(or case)-end constructs, functions
c and procedures, places a * next to goto and return statements.

c

c Program by Mitchell R Grunes, ATSC/NRL (grunes@nrlvax.nrl.navy.mil).

c Revision date: 3/10/95.

c If you find it useful, please send me an e-mail comment--

c but do NOT send money.

c This program was written in FORTRAN, the One True Language.

c Note--this is a quick and dirty attempt--may not always work quite right.

c It does not yet handle CASE instances, since I don't use them myself,

c but it should draw a line around the entire CASE block.

c It is assumed that no fortran carriage control exists on the output

c file, so don't specify output to the screen or a terminal.

c I hope this works for you, but bear in mind that nothing short of
c a full-fledged language parser could really do the job. Perhaps
c worth about what you paid for it. (-:

c Versions: To diagram Fortran: diagramf.for

c IDL: diagrami.for

c C: diagramc.for

```
character*160 a,b
character*16 aa
character*5 form,fm
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,status='unknown')
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)?'
c  print*, 'column for line #(68 for screen,0 for none)?'
c  iline=0
c  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 subroutine or function?
nMainEnd=0 !# of mainline programs ended so far
nline=0
10  read(1,11,end=99)a
11  format(a160)
nline=nline+1
fm= ' '
write(fm,'(i5)')nline
if(nline/100*100.eq.nline)print*, 'Line ',fm
```

```

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
i=1
j=1
a=' '
iquote=0      !no ' yet
idquote=0     !no " yet
j=1
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.'")')iquote=1-iquote
  if(c.eq.'"')idquote=1-idquote
  if(iquote.ne.0.or.idquote.ne.0)c=' '
  if(j.gt.1)then      !(kill multiple spaces)
    if(c.eq.' ' .and.a(j-1:j-1).eq.' ')j=j-1
  endif
  a(j:j)=c
  j=j+1
enddo
15  i2=i1
  i3=i1
  iflag=0      !no goto on line
  if(find(a,'goto',8+32).or.find(a,'return',1+128))iflag=1
  if(find(a,'endif ',2).or.find(a,'endfor ',2)
& .or.find(a,'endelse ',2).or.find(a,'endwhile ',2)
& .or.find(a,'endcase ',2).or.find(a,'endrep ',2))then
    i3=i3-1
    i4=i4+1
    if(find(a,'begin ',1))i3=i3+1
  elseif(find(a,'case ',1))then
    i4=i4+1
    i2=i2+1
    i3=i3+1
  elseif(find(a,'begin ',1))then
    i4=i4+1
    i2=i2+1
    i3=i3+1
  elseif(find(a,'function ',2).or.find(a,'pro ',2))then

```

```

if(InSub.eq.0)then
  InSub=1
  i2=i2+1
  i3=i3+1
  i4=i4+1
  if(i3.ne.1)then
    PRINT*, '***ERROR--INVALID DIAGRAMMING INDEX line', fm
    WRITE(2,*) '***ERROR--INVALID DIAGRAMMING INDEX!***'
    print*, char(7)
  endif
endif
i3=1
elseif(find(a,'end ',2))then
  if(i3.gt.0.or.InSub.gt.0)then      !Problem: IDL end may actually
    i3=i3-1                          ! be an endif, endelse, etc.
    i4=i4+1
    if(i3.eq.0.and.InSub.ne.0)InSub=0
    if(find(a,'begin ',1))then
      i2=i2+1
      i3=i3+1
    endif
  else
    nMainEnd=nMainEnd+1
    print*, '***MAINLINE END line ', fm
    if(nMainEnd.gt.1)then
      PRINT*, '***ERROR--TOO MANY MAINLINE ENDS!***'
      WRITE(2,*) '***ERROR--TOO MANY MAINLINE ENDS!***'
      print*, char(7)
    endif
  endif
endif
a=' '
if(i1.lt.0.or.i2.lt.0.or.i3.lt.0.or.i4.lt.0)then
  PRINT*, '***ERROR--INVALID DIAGRAMMING INDEX line', fm
  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
i4=0
if(iline.ne.0.and.b(max(1,iline):160).eq.' ')then
    form=fm          !line #
    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(i3.gt.0.or.lnSub.ne.0)then
        PRINT*, '***WARNING--SOME NEST LEVELS LEFT HANGING AT END***'
        print*,char(7)
    endif
end
end
C-----
    logical function find(a,b,icond) !find b in a, subject to conditions:
                                !icond=sum of the following:
                                !1: Prior, if exists, must be blank
                                !2: Must be first non-blank
                                !4: Prior character, if present,
                                !    must not be alphanumeric.
                                !8: Prior character, if present,
                                !    must be blank or )
                                !16: Prior character, if present,
                                !    must be blank or ,
                                !32: Next character not alphanumeric
                                !64: Next character not alphabetic
                                !128:Next character must be blank or (
                                character*(*) a,b
                                character*1  c,cNext
                                common icol
                                logical result

                                ii=len(a)

```

```

jj=len(b)
result=.false.
do i=1,ii-jj+1
  if(a(i:i+jj-1).eq.b)then
    icol1=i          ! icol1=column of item found
    icol =i+jj       ! icol =column after item found

    c=' '
    cNext=' '
    if(icol1.gt.1)c=a(icol1-1:icol1-1)
    if(icol .le.ii)cNext=a(icol:icol)

    result=.true.
    if(result.and.iand(icond,1).ne.0.and.icol1.gt.1)then
      result=c.eq.' '
    endif

    if(result.and.iand(icond,2).ne.0.and.icol1.gt.1)then
      result=a(1:icol1-1).eq.' '
    endif

    if(result.and.iand(icond,4).ne.0)
&    result=(c.lt.'0'.or.c.gt.'9').and.(c.lt.'a'.or.c.gt.'z')

    if(result.and.iand(icond,8).ne.0)result=c.eq.' ' .or.c.eq.')'

    if(result.and.iand(icond,16).ne.0)result=
&    c.eq.' ' .or.c.eq.','. '

    if(result.and.iand(icond,32).ne.0)
&    result=(cNext.lt.'0'.or.cNext.gt.'9').and.
&    (cNext.lt.'a'.or.cNext.gt.'z')

    if(result.and.iand(icond,64).ne.0)
&    result=(cNext.lt.'a'.or.cNext.gt.'z')

    if(result.and.iand(icond,128).ne.0)
&    result=cNext.eq.' ' .or.cNext.eq. '('

    find=result
    if(result)return
  endif
enddo
find=result
return
end

```

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(opinions expressed are mine alone)
Mitchell R Grunes (grunes@nrlvax.nrl.navy.mil)
Allied-Signal Tech. Serv. / Naval Research Lab
