Subject: reading file into structure?
Posted by Randall Skelton on Wed, 18 Apr 2001 12:58:33 GMT
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Hi all,

I am having a rather silly problem with reading in a simple ASCII file directly into an IDL structure. Below is a simple procedure 'testread' and a sample ASCII file 'testfile'. NB: I've removed all the error checking and striped down the procedure to limit its size...

What I want to do is read in data on line 20 directly into the data.values but for some reason all I get are zeros in the 'values' array. If I read the data directly into a float array, there is no problem? I am at a loss here?

```
pro testread, file, data
   sgas = '*TEST'
   l = STRLEN(sgas)
   OPENR, 1, file
   header = '!'
   nlev = 0

   WHILE STRMID(header,0,1) EQ '!' DO READF, 1, header
   READS, header, nlev

   ;data = fltarr(nlev)          ;change comments if testing array
   data = {basic_struct, comment: ' ', values: fltarr(nlev)}

   WHILE STRMID(header,0,l) NE sgas DO BEGIN
     READF, 1, header
     IF STRLEN(header) LT l THEN header = header + ' '
     header = STRUPCASE(header)
   ENDWHILE
   ;READF, 1, data               ;<-- this works.
   READF, 1, data.values          ;<-- why doesn't this work?
   CLOSE, 1
END

---------- testfile ----------
! Comments here
! Another line of comments
  50
*blah [units]
       0.0,      1.0,      2.0,      3.0,      4.0,
       5.0,      6.0,      7.0,      8.0,      9.0,
      10.0,     11.0,     12.0,     13.0,     14.0,
      15.0,     16.0,     17.0,     18.0,     19.0,
```

```
     20.0,     21.0,     22.0,     23.0,     24.0,
     25.0,     27.5,     30.0,     32.5,     35.0,
     37.5,     40.0,     42.5,     45.0,     47.5,
     50.0,     55.0,     60.0,     65.0,     70.0,
     75.0,     80.0,     85.0,     90.0,     95.0,
    100.0,    105.0,    110.0,    115.0,    120.0
*nextblah [units]
 1.013E+03, 8.988E+02, 7.950E+02, 7.012E+02, 6.166E+02,
 5.405E+02, 4.722E+02, 4.111E+02, 3.565E+02, 3.080E+02,
 2.650E+02, 2.270E+02, 1.940E+02, 1.658E+02, 1.417E+02,
 1.211E+02, 1.035E+02, 8.850E+01, 7.565E+01, 6.467E+01,
 5.529E+01, 4.729E+01, 4.047E+01, 3.467E+01, 2.972E+01,
 2.549E+01, 1.743E+01, 1.197E+01, 8.010E+00, 5.746E+00,
 4.150E+00, 2.871E+00, 2.060E+00, 1.491E+00, 1.090E+00,
 7.978E-01, 4.250E-01, 2.190E-01, 1.090E-01, 5.220E-02,
 2.400E-02, 1.050E-02, 4.460E-03, 1.840E-03, 7.600E-04,
 3.200E-04, 1.450E-04, 7.100E-05, 4.010E-05, 2.540E-05
*TEST [md]
    288.20,   281.70,   275.20,   268.70,   262.20,
    255.70,   249.20,   242.70,   236.20,   229.70,
    223.30,   216.80,   216.70,   216.70,   216.70,
    216.70,   216.70,   216.70,   216.70,   216.70,
    216.70,   217.60,   218.60,   219.60,   220.60,
    221.60,   224.00,   226.50,   230.00,   236.50,
    242.90,   250.40,   257.30,   264.20,   270.60,
    270.70,   260.80,   247.00,   233.30,   219.60,
    208.40,   198.60,   188.90,   186.90,   188.40,
    195.10,   208.80,   240.00,   300.00,   360.00
*lastblah [units]
 7.745E+03, 6.071E+03, 4.631E+03, 3.182E+03, 2.158E+03,
 1.397E+03, 9.254E+02, 5.720E+02, 3.667E+02, 1.583E+02,
 6.996E+01, 3.613E+01, 1.906E+01, 1.085E+01, 5.927E+00,
 5.000E+00, 3.950E+00, 3.850E+00, 3.825E+00, 3.850E+00,
 3.900E+00, 3.975E+00, 4.065E+00, 4.200E+00, 4.300E+00,
 4.425E+00, 4.575E+00, 4.725E+00, 4.825E+00, 4.900E+00,
 4.950E+00, 5.025E+00, 5.150E+00, 5.225E+00, 5.250E+00,
 5.225E+00, 5.100E+00, 4.750E+00, 4.200E+00, 3.500E+00,
 2.825E+00, 2.050E+00, 1.330E+00, 8.500E-01, 5.400E-01,
 4.000E-01, 3.400E-01, 2.800E-01, 2.400E-01, 2.000E-01
---------- EOF ----------
```

Subject: Re: reading file into structure?
Posted by Randall Skelton on Wed, 18 Apr 2001 13:41:09 GMT
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Appending to my previous query, a quick work-around seems to be to read the file into an array and then define data.values to point to the

array. This seems a little dirty?

i.e.

```
pro testread, file, data
   sgas = '*TEST'
   l = STRLEN(sgas)
   OPENR, 1, file
   header = '!'
   nlev = 0

   WHILE STRMID(header,0,1) EQ '!' DO READF, 1, header
   READS, header, nlev

   array = fltarr(nlev)
   data = {basic_struct, comment: ' ', values: fltarr(nlev)}

   WHILE STRMID(header,0,l) NE sgas DO BEGIN
     READF, 1, header
     IF STRLEN(header) LT l THEN header = header + ' '
     header = STRUPCASE(header)
   ENDWHILE
   READF, 1, array
   data.values = array          ; <-- dirty cheat
   CLOSE, 1
END


>  pro testread, file, data
>     sgas = '*TEST'
>     l = STRLEN(sgas)
>     OPENR, 1, file
>     header = '!'
>     nlev = 0
>
>     WHILE STRMID(header,0,1) EQ '!' DO READF, 1, header
>     READS, header, nlev
>
>     ;data = fltarr(nlev)          ;change comments if testing array
>     data = {basic_struct, comment: ' ', values: fltarr(nlev)}
>
>     WHILE STRMID(header,0,l) NE sgas DO BEGIN
>       READF, 1, header
>       IF STRLEN(header) LT l THEN header = header + ' '
>       header = STRUPCASE(header)
>     ENDWHILE
>     ;READF, 1, data               ;<-- this works.
>     READF, 1, data.values          ;<-- why doesn't this work?
```

> CLOSE, 1
> END

[snip]