Subject: Re: problem with reading formated file
Posted by David Foster on Fri, 10 Oct 1997 07:00:00 GMT
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Martin Schultz wrote:
>
> Pavel Eiges wrote:
>>
>> Hello!
>>
>> i'm new in IDL programming so my question may be very
>> dumb/simple/funny/etc but i cant solve this problem by myself.
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>> i have a formated file like this:
>> ==========
>> 1877383765 1.778
>> 1877384765 1.685
>> 1877385765 1.599
>> 1877386765 1.599
>> 1877387765 1.685
>> ==========
>> and i need to load it into two arrays. the first array is LONG-type,
>> the second one - FLOAT-type. How i can do this?
>> ("READF, file, Time, Data" does not work).
>>

Here's a real easy and efficient way to do this. First, create a
structure{} containing the variables from one row, and then you
can either:

1. If you know the number of lines in the file, create an
array of structures and read the file in one read;

```
st = {time: 0L, data: 0.0}
st_array = replicate( st, n_lines )
openr, unit, Filename, /get_lun
readf, unit, st_array
free_lun, unit
```

2. Otherwise, read the file one line at a time, testing for EOF.

```
st = {time: 0L, data: 0.0}
st_array = replicate( st, 1000 )
openr, unit, Filename, /get_lun
temp1 = 0L
temp2 = 0.0
i = 0
while (not EOF(unit)) do begin
```

```
   readf, unit, temp1, temp2
   st_array[i].time = temp1
   st_array[i].data = temp2
   i = i + 1
endwhile
free_lun, unit
st_array = st_array[0:i-1]
```

3. Or alternatively you could use some of my routines as follows:

```
strings = FILE_STRARR( Filename )   ; Read file into STRARR
st = {time: 0L, data: 0.0}
st_array = replicate( st, n_elements(strings) )
for i = 0, n_elements(strings) - 1 do begin
   pos = 0                          ; Pointer into string
   st_array[i].time = GET_TOKEN(strings[i], pos, /int)
   st_array[i].data = GET_TOKEN(strings[i], pos, /flt)
endfor
```

This is a useful technique if the data-file has delimiting characters. In this case you just have to increment POS to pass over the delimiter. Alternatively, you can read each variable as a string, using the delimiter (in this case either ',' or ';') to define the fields:

```
for i = 0, n_elements(strings) - 1 do begin
   time = GET_TOKEN(strings[i], pos, sep=',;', /increment)
   st_array[i].time = fix(time)
   data = GET_TOKEN(strings[i], pos, sep=',;', /increment)
   st_array[i].data = float(data)
endfor
```

You can download FILE_STRARR.PRO and GET_TOKEN.PRO from:

```
ftp://bial8.ucsd.edu   pub/software/idl/share
```

Hope this helps.

Dave

--

~~~~~~ ~~~~~~
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~~~~~~ ~~~~~~

Subject: Re: problem with reading formated file
Posted by Martin Schultz on Fri, 10 Oct 1997 07:00:00 GMT
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> %-\ HELP!
>
> Pavel Eiges

You must specify a format='(...)' statement with the READF command. In your case thi swoul dbe something like

READF,file, time, data, format='(3X,i10,f9.3)'

Also, because time is a long variable, you may have to assign it to a long value before you call READF, e.g. time=0L (well, you don't have to: IDL converts it into a float if you don't. But this way you can save it as a long variable if you like to).

Cheers,
Martin.

Dr. Martin Schultz
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Subject: Re: problem with reading formated file
Posted by rivers on Sat, 11 Oct 1997 07:00:00 GMT
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In article <343f0158.1848870@news-server>, ccampo1@nospamsan.nospamrr.com (Chris and Cathy Campo) writes:
> On Fri, 10 Oct 1997 19:25:54 +0300, Pavel Eiges <eiges@chat.ru> wrote:
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>> ("READF, file, Time, Data" does not work).
>
>
> try this:
> n=5
> time = lonarr(n)
> data = fltarr(n)
> for i = 0, n-1 do begin
>   readf,file, time(i), data(i)
> endfor

No, this will not work!!! You cannot read into a subscripted array element,
because time(i) is passed by "value" rather by "reference" to readf.

The simplest way to solve the problem is as follows:

n=5
time = lonarr(n)
data = fltarr(n)
temp = fltarr(2, n)
readf, file, temp

time(*) = temp(0,*)
data(*) = temp(1,*)

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Posted by ccampo1 on Sat, 11 Oct 1997 07:00:00 GMT
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try this:

```
n=5
time = lonarr(n)
data = fltarr(n)
for i = 0, n-1 do begin
  readf,file, time(i), data(i)
endfor
```

Subject: Re: problem with reading formated file
Posted by Clemens v. Mann on Thu, 16 Oct 1997 07:00:00 GMT
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Hi

there is an other possibility for the problem,
when the float has no dot (format problem) :

```
str_chr = { str_chr, L:'', F:''}
str_chr_arr = replicate( { str_chr}, lines)

// read in as characters
readf, fd, str_chr_arr, format = '(A15, A8)'

str = { str, L:0L, F:0.0}
str_arr = replicate( { str}, lines)

// no needed loop !
str_arr.L = str_chr_arr.L
str_arr.F = str_chr_arr.F
```

Clemens
