Subject: readf,1,format= .....
Posted by woopik on Sat, 08 Dec 2007 21:18:17 GMT
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hi

i have a question
i have in a txt file some data
48883 149.55579541 12.44483936
  ....
when i read a entire line
line=''
readf,1,line
print,line
i get a good output
48883 149.55579541 12.44483936

but when i read data like this
ttab = MAKE_ARRAY(nlines,3,/DOUBLE)
...
FMTp='(I5,2X,D13.8,2X,D13.8)'
 for i=1,nlines do begin
  READF,1,FORMAT=FMT,l1,l2,l3
  ttab[i-1,0]=l1 & ttab[i-1,1]=l2 & ttab[i-1,2]=l3
 endfor
and i print them
print,FORMAT=FMTp,ttab[0,0], ttab[0,1],ttab[0,2]
i get
48883 149.55580139 12.44483948
and this is not the same it should be
48883 149.55579541 12.44483936

why ?
i use idl 6.1 6.2
Wojtek

Subject: Re: readf,1,format= .....
Posted by Vince Hradil on Sun, 09 Dec 2007 13:45:28 GMT
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On Dec 9, 4:31 am, woo...@interia.pl wrote:
>> I would say because you didn't use the same format on your
>> READF command as you did on your PRINT command.
>
> i dont understand your tip :(
> i am using the same FMTp format for both
>

> Wojtek

You forgot the p in FMTp in the read statement ;)

Subject: Re: readf,1,format= .....
Posted by woopik on Sun, 09 Dec 2007 14:50:44 GMT
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sorry a type error but nothing change when i use FMTp for both
(FMT is quite similar)

```
function read_local ,file
FMT=
 '(I5,2X,D13.8,2X,D13.8,3X,F8.2,3X,F8.2,3X,F7.2,3X,F7.2,3X,F6
.2,3X,F6.2,3X,F6.2,3X,F6.2,4X,F6.2,3X,F6.2,3X,F6.2,2X,F6.2)'
 spawn, ['wc', '-l', file], result, /noshell
 nlines = long(result(0))
 ttab = MAKE_ARRAY(nlines-5,15,/DOUBLE)
 OPENR,1,file
 line=''
 readf,1,line
 for i=1,nlines-5 do begin
  READF,1,FORMAT=FMT, n,ra,dec, I1,I2,I3,I4,I5,I6,I7,I8,I9,I10,I11,I12
  ttab[i-1,0]=n & ttab[i-1,1]=ra & ttab[i-1,2]=dec
  ttab[i-1,3]=I1 & ttab[i-1,4]=I2 & ttab[i-1,5]=I3
  ttab[i-1,6]=I4 & ttab[i-1,7]=I5 & ttab[i-1,8]=I6
  ttab[i-1,9]=I7 & ttab[i-1,10]=I8 & ttab[i-1,11]=I9
  ttab[i-1,12]=I10 & ttab[i-1,13]=I11 & ttab[i-1,14]=I12
 endfor
 CLOSE , 1
print,FORMAT=FMT,ttab[0,*]
RETURN,ttab
end
```

Subject: Re: readf,1,format= .....
Posted by Vince Hradil on Sun, 09 Dec 2007 15:49:40 GMT
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On Dec 9, 8:50 am, woo...@interia.pl wrote:
> sorry a type error but nothing change when i use FMTp for both
> (FMT is quite similar)
>
> function read_local ,file
> FMT=
> '(I5,2X,D13.8,2X,D13.8,3X,F8.2,3X,F8.2,3X,F7.2,3X,F7.2,3X,F6

```
.2,3X,F6.2,3X,F6.2,3X,F6.2,4X,F6.2,3X,F6.2,3X,F6.2,2X,F6.2)'
>         spawn, ['wc', '-l', file], result, /noshell
>         nlines = long(result(0))
>         ttab = MAKE_ARRAY(nlines-5,15,/DOUBLE)
>         OPENR,1,file
>         line=''
>         readf,1,line
>         for i=1,nlines-5 do begin
>                 READF,1,FORMAT=FMT, n,ra,dec, l1,l2,l3,l4,l5,l6,l7,l8,l9,l10,l11,l12
>                 ttab[i-1,0]=n & ttab[i-1,1]=ra & ttab[i-1,2]=dec
>                 ttab[i-1,3]=l1 & ttab[i-1,4]=l2 & ttab[i-1,5]=l3
>                 ttab[i-1,6]=l4 & ttab[i-1,7]=l5 & ttab[i-1,8]=l6
>                 ttab[i-1,9]=l7 & ttab[i-1,10]=l8 & ttab[i-1,11]=l9
>                 ttab[i-1,12]=l10 & ttab[i-1,13]=l11 & ttab[i-1,14]=l12
>         endfor
>         CLOSE , 1
>  print,FORMAT=FMT,ttab[0,*]
>  RETURN,ttab
>  end
```

1) I would avoid using l (el) in variable names - hard to read
2) I would use file_lines to count the number of lines
3) I would define a structure and read each line in separately:

```
ttab = replicate({n:0,ra:0.0D,dec:0.0D,array:fltarr(12)},nlines)
for i=0L, nlines-5 do readf, lun, ttab[i]
```

Hope this helps!

Subject: Re: readf,1,format= .....
Posted by David Fanning on Sun, 09 Dec 2007 16:07:58 GMT
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woopik@interia.pl writes:

```
>  sorry a type error but nothing change when i use FMTp for both
>  (FMT is quite similar)
>
>  function read_local ,file
>  FMT=
>   '(I5,2X,D13.8,2X,D13.8,3X,F8.2,3X,F8.2,3X,F7.2,3X,F7.2,3X,F6
.2,3X,F6.2,3X,F6.2,3X,F6.2,4X,F6.2,3X,F6.2,3X,F6.2,2X,F6.2)'
>    spawn, ['wc', '-l', file], result, /noshell
>    nlines = long(result(0))
>    ttab = MAKE_ARRAY(nlines-5,15,/DOUBLE)
>    OPENR,1,file
>    line=''
>    readf,1,line
```

```
>   for i=1,nlines-5 do begin
>    READF,1,FORMAT=FMT, n,ra,dec, l1,l2,l3,l4,l5,l6,l7,l8,l9,l10,l11,l12
>    ttab[i-1,0]=n & ttab[i-1,1]=ra & ttab[i-1,2]=dec
>    ttab[i-1,3]=l1 & ttab[i-1,4]=l2 & ttab[i-1,5]=l3
>    ttab[i-1,6]=l4 & ttab[i-1,7]=l5 & ttab[i-1,8]=l6
>    ttab[i-1,9]=l7 & ttab[i-1,10]=l8 & ttab[i-1,11]=l9
>    ttab[i-1,12]=l10 & ttab[i-1,13]=l11 & ttab[i-1,14]=l12
>   endfor
>   CLOSE , 1
>  print,FORMAT=FMT,ttab[0,*]
>  RETURN,ttab
>  end
```

Well, this is most interesting. There is a mismatch between
your variables (n, ra, dec, etc.) and your FORMAT statement.
In other words, ra and dec, since they are undeclared in the
program, are by default floats. Your format statement is going
to try to read them as doubles. The "rules" of input state that
IDL "tries to do what you want to do". Here, it thinks what you
are trying to do, is stuff a double into a float, and it does
this correctly. The variable ttab is a double, but it has been
stuffed with a floating value (from ra and dec).

The solution is to declare the variables on your READF
statement to be what you want to read into. That is, doubles.
However, I completely agree with Vince that what you REALLY
want to do is read this data in another way, rather than
line by line, practically the worst way to read data in IDL
(ala READ_ASCII). I think I would take his structure advice.
That will also solve your problem here.

Cheers,

David

P.S. Here is the program I used to test your program with the
data you sent yesterday:

```
function read_local ,file
  FMT='(I5,2X,D13.8,2X,D13.8)'
  nlines = File_lines(file)
  ttab = MAKE_ARRAY(3,nlines,/DOUBLE)
  n = 0L
  ra = 0.0D0
  dec = 0.0D0
  OPENR,1,file
  for I=0,nlines-1 do begin
     READF,1,FORMAT=FMT, n,ra,dec
```

```
   ttab[0,I]=n & ttab[1,I]=ra & ttab[2,I]=dec
  endfor
  CLOSE , 1
print,FORMAT=FMT,ttab
RETURN,ttab
end
```

--
David Fanning, Ph.D.
Fanning Software Consulting, Inc.
Coyote's Guide to IDL Programming: http://www.dfanning.com/
Sepore ma de ni thui. ("Perhaps thou speakest truth.")

Subject: Re: readf,1,format= .....
Posted by woopik on Sun, 09 Dec 2007 16:40:52 GMT
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strange but true , now its works
thx a lot :)

Wojtek

> In other words, ra and dec, since they are undeclared in the
> program, are by default floats.

> n = 0L
> ra = 0.0D0
> dec = 0.0D0

Subject: Re: readf,1,format= .....
Posted by woopik on Sun, 09 Dec 2007 17:57:04 GMT
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bu if this works fine
--> ra = 0.0D0
i have second question

what i should do when i have in file
variables in a scientific notation
and i want read and store them
in array
for ex 5.4195140971e-04 ?

Wojtek

Subject: Re: readf,1,format= .....
Posted by David Fanning on Sun, 09 Dec 2007 18:06:20 GMT
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woopik@interia.pl writes:

> bu if this works fine
> --> ra = 0.0D0
> i have second question
>
> what i should do when i have in file
> variables in a scientific notation
> and i want read and store them
> in array
> for ex 5.4195140971e-04 ?
>
>
IDL won't be confused by this. :-)

Cheers,

David
--
David Fanning, Ph.D.
Fanning Software Consulting, Inc.
Coyote's Guide to IDL Programming: http://www.dfanning.com/
Sepore ma de ni thui. ("Perhaps thou speakest truth.")

Subject: Re: readf,1,format= .....
Posted by woopik on Mon, 10 Dec 2007 14:11:29 GMT
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meaby, but its a big problem for me ;-)

i try
a=5.4195140971e-04
print,a,FORMAT='(e17.10)'

and i get
5.4195139091e-04

Wojtek

Subject: Re: readf,1,format= .....
Posted by David Fanning on Mon, 10 Dec 2007 14:35:18 GMT

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woopik@interia.pl writes:

> meaby, but its a big problem for me ;-)
>
> i try
> a=5.4195140971e-04
> print,a,FORMAT='(e17.10)'
>
> and i get
> 5.4195139091e-04

Oh, I thought we were talking about reading it from
a file. Yes, in this case, you want this:

```
IDL> a=5.4195140971d-04
IDL> print,a,FORMAT='(e17.10)'
  5.4195140971e-004
```

Cheers,

David
--
David Fanning, Ph.D.
Fanning Software Consulting, Inc.
Coyote's Guide to IDL Programming: http://www.dfanning.com/
Sepore ma de ni thui. ("Perhaps thou speakest truth.")

Subject: Re: readf,1,format= .....
Posted by woopik on Tue, 11 Dec 2007 14:01:51 GMT
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all is ok now

thx

Wojtek

Subject: Re: Readf
Posted by Maarten[1] on Fri, 19 Mar 2010 12:51:01 GMT
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On Mar 19, 12:51 pm, bing999 <thibaultga...@gmail.com> wrote:

> i have written a file in fortran this way:

>
> write(444,'(e14.6,1x,e14.6,1x,e14.6)',advance='yes') A, B, C
>
> where A has a value of 2.10^60 and the other ones 0.0000000
>
> The file is printed correctly but when i want to read it with IDL:
>
> readf,11,format='(e14.6,1x,e14.6,1x,e14.6)', A, B, C
>
> It displays Inf for A and 0.0000000 for B and C.
>
> However, it is the same format I don't understand why it prints Inf
> for A (even if i initialize A = 0.d0)

Make sure A is double precision. 2.10^60 is beyond the range of float.

IDL> a = 2D60
IDL> b = float(a)
% Program caused arithmetic error: Floating overflow
IDL> help
% At $MAIN$
A DOUBLE = 2.0000000e+60
B FLOAT = Inf

If you make sure that a, b, and c exist before the read statement (as
double precision floats), then all is well. I sure would like to have
a compile_opt to use doubles by default.

Maarten

Subject: Re: Readf
Posted by Gray on Fri, 19 Mar 2010 12:52:49 GMT
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On Mar 19, 7:51 am, bing999 <thibaultga...@gmail.com> wrote:
> Hi,
>
> i have written a file in fortran this way:
>
> write(444,'(e14.6,1x,e14.6,1x,e14.6)',advance='yes') A, B, C
>
> where A has a value of 2.10^60 and the other ones 0.0000000
>
> The file is printed correctly but when i want to read it with IDL:
>
> readf,11,format='(e14.6,1x,e14.6,1x,e14.6)', A, B, C
>

> It displays Inf for A and 0.0000000 for B and C.
>
> However, it is the same format I don't understand why it prints Inf
> for A (even if i initialize A = 0.d0)
>
> If somebody could help, it would really help me !
> Thanks

The problem is that you're reading it in as a float, which has a
maximum value of 10^38. You need to read them in as type double.

Subject: Re: Readf
Posted by Maarten[1] on Fri, 19 Mar 2010 12:54:20 GMT
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On Mar 19, 12:51 pm, bing999 <thibaultga...@gmail.com> wrote:

> However, it is the same format I don't understand why it prints Inf
> for A (even if i initialize A = 0.d0)

Sorry, missed that. I don't understand that. Having a d in the format
code doesn't help either. Are you sure that A is double presision when
the read statement is executed? It certainly worked for me.

Maarten
