Subject: Format codes in IDL
Posted by astib on Tue, 18 Jun 2002 16:34:40 GMT
View Forum Message <> Reply to Message

Hi everybody,

I am having a problem applying format codes to 'NaN', i.e. !VALUES.F_NAN. When I try to assign this value to some variable and read it from the command line in Macintosh and Linux, it gives me error that 'Format code ... cannot be applied to 'variable'. It gives it for all format codes. The interesting thing is, I have one such statement in my code, it runs okay under Linux machine, but crashes under Macintosh. I do not understand this. If anybody has got any experience regarding the same and would help me, I would appreciate that.

Thanks,
Asti

Subject: Re: Format codes in IDL
Posted by R.Bauer on Wed, 19 Jun 2002 06:55:03 GMT
View Forum Message <> Reply to Message

Asti Bhatt wrote:
>
> Hi,
>
> No, if I do like -
> IDL>x = !values.f_nan
> IDL> read,format = '(3f10.3)', b
> and if in the input i give x, it will give me an error. Not only NaN,
> but if I say x=2 and try to give it as input to read with format
> specified, it will give me error. And this is typical to Macintosh. I
> tried same thing under Linux and it works fine. Actually I have a .dat
> file from which I need to read data, there are some NaN's also, and on
> macintosh, it refuses to read it by giving this error - %Unable to
> apply format code blah blah to 'variable'(whatever it is).
>
> Do you know if rsi has any patch for this ? I searched the website for
> this, but couldn't get anything.
>
> Thanks,
> Asti

What's with this workaround.

Read in the data as string array.
Then do a replace of NaN by a fill_falue

e.g. data.txt

something like this:

```
1 NaN  100 200 NaN
1 10  1.2331 200 NaN
1 NaN  NaN 200 NaN
1 NaN  100 200 NaN
```

```
pro conv
n=fileline('data.txt')
txt=make_array(n,/string)
openr,lun,'data.txt',/get_lun
readf,lun,txt
free_lun,lun

ix=where(strpos(txt,'NaN') gt -1,count)
if count gt 0 then txt[ix]=replace_string(txt[ix],'NaN','9999')

openw,lun,'new_data.txt',/get_lun
printf,lun,transpose(txt)
free_lun,lun

d=read_data_file('new_data.txt')
; could examine header and trailer too
end
IDL> conv

help,d,/str
** Structure <81bd584>, 3 tags, length=184, data length=184, refs=1:
   FILE            STRING    'new_data.txt'
   SEPARATOR       STRING    ' '
   DATA            DOUBLE    Array[5, 4]
```

used routines are:

http://www.fz-juelich.de/icg/icg-i/idl_icglib/idl_source/idl _html/dbase/download/fileline.tar.gz
http://www.fz-juelich.de/icg/icg-i/idl_icglib/idl_source/idl
_html/dbase/download/replace_string.tar.gz
http://www.fz-juelich.de/icg/icg-i/idl_icglib/idl_source/idl
_html/dbase/download/read_data_file.tar.gz

For further routines and licensing please have a look at

http://www.fz-juelich.de/icg/icg1/idl_icglib/idl_lib_intro.h tml

regards
Reimar

>
> thompson@orpheus.nascom.nasa.gov (William Thompson) wrote in message news:<aeo3f4$3g1$1@skates.gsfc.nasa.gov>...
>> astib@cc.usu.edu (Asti Bhatt) writes:
>>
>>> Hi everybody,
>>
>>> I am having a problem applying format codes to 'NaN', i.e.
>>> !VALUES.F_NAN. When I try to assign this value to some variable and
>>> read it from the command line in Macintosh and Linux, it gives me
>>> error that 'Format code ... cannot be applied to 'variable'. It gives
>>> it for all format codes. The interesting thing is, I have one such
>>> statement in my code, it runs okay under Linux machine, but crashes
>>> under Macintosh. I do not understand this. If anybody has got any
>>> experience regarding the same and would help me, I would appreciate
>>> that.
>>
>> I'm not sure what you mean. Do you mean that if you do something like
>>
>> IDL> a = !values.f_nan
>> idl> READ, prompt='Input A: ', a, format='(F10.7)'
>>
>> that it will cause an error?
>>
>> Bill Thompson

--
Reimar Bauer

Institut fuer Stratosphaerische Chemie (ICG-I)
Forschungszentrum Juelich
email: R.Bauer@fz-juelich.de
---------- -------
a IDL library at ForschungsZentrum Juelich
http://www.fz-juelich.de/icg/icg1/idl_icglib/idl_lib_intro.h tml
========== =======

Subject: Re: Format codes in IDL
Posted by thompson on Wed, 19 Jun 2002 14:54:57 GMT
View Forum Message <> Reply to Message

astib@cc.usu.edu (Asti Bhatt) writes:

> No, if I do like -
> IDL>x = !values.f_nan
> IDL> read,format = '(3f10.3)', b
> and if in the input i give x, it will give me an error. Not only NaN,
> but if I say x=2 and try to give it as input to read with format
> specified, it will give me error. And this is typical to Macintosh. I
> tried same thing under Linux and it works fine. Actually I have a .dat
> file from which I need to read data, there are some NaN's also, and on
> macintosh, it refuses to read it by giving this error - %Unable to
> apply format code blah blah to 'variable'(whatever it is).

You mean that you're reading in from the keyboard, and instead of typing in a number, you type in the character name of an IDL variable? That certainly doesn't work on my machine under 5.4. Was this something added to 5.5? I get

```
 IDL> x=3
 IDL> read,format='(3f10.3)',b
 : x
 % Unable to apply format code F to input: "x".
 % Execution halted at:  $MAIN$
```

I'm very confused,

Bill Thompson

> Do you know if rsi has any patch for this ? I searched the website for
> this, but couldn't get anything.

> Thanks,
> Asti

> thompson@orpheus.nascom.nasa.gov (William Thompson) wrote in message
news:<aeo3f4$3g1$1@skates.gsfc.nasa.gov>...
>> astib@cc.usu.edu (Asti Bhatt) writes:
>>
>>> Hi everybody,
>>
>>> I am having a problem applying format codes to 'NaN', i.e.
>>> !VALUES.F_NAN. When I try to assign this value to some variable and
>>> read it from the command line in Macintosh and Linux, it gives me
>>> error that 'Format code ... cannot be applied to 'variable'. It gives

>>> it for all format codes. The interesting thing is, I have one such
>>> statement in my code, it runs okay under Linux machine, but crashes
>>> under Macintosh. I do not understand this. If anybody has got any
>>> experience regarding the same and would help me, I would appreciate
>>> that.
>>
>> I'm not sure what you mean. Do you mean that if you do something like
>>
>> IDL> a = !values.f_nan
>> idl> READ, prompt='Input A: ', a, format='(F10.7)'
>>
>> that it will cause an error?
>>
>> Bill Thompson

Subject: Re: Format codes in IDL
Posted by thompson on Wed, 19 Jun 2002 15:23:14 GMT
View Forum Message <> Reply to Message

thompson@orpheus.nascom.nasa.gov (William Thompson) writes:

> astib@cc.usu.edu (Asti Bhatt) writes:

>> No, if I do like -
>> IDL>x = !values.f_nan
>> IDL> read,format = '(3f10.3)', b
>> and if in the input i give x, it will give me an error. Not only NaN,
>> but if I say x=2 and try to give it as input to read with format
>> specified, it will give me error. And this is typical to Macintosh. I
>> tried same thing under Linux and it works fine. Actually I have a .dat
>> file from which I need to read data, there are some NaN's also, and on
>> macintosh, it refuses to read it by giving this error - %Unable to
>> apply format code blah blah to 'variable'(whatever it is).

> You mean that you're reading in from the keyboard, and instead of typing in a
> number, you type in the character name of an IDL variable? That certainly
> doesn't work on my machine under 5.4. Was this something added to 5.5? I get

> IDL> x=3
> IDL> read,format='(3f10.3)',b
> : x
> % Unable to apply format code F to input: "x".
> % Execution halted at: $MAIN$

Actually, I think I've figured out what it is your trying to say. You're
trying to read the actual characters "NaN" into a variable.

Maybe it's an IDL version issue. On my Alpha workstation running Tru64 Unix with IDL/v5.4 I can read in NaN with format statements, but only if the characters "NaN" are aligned with the left side of the field. Preceeding blank characters cause the error message

 % Unable to apply format code F to input: " NaN   ".

Maybe this is fixed in later versions of IDL?

Bill Thompson

Subject: Re: Format codes in IDL
Posted by astib on Wed, 19 Jun 2002 19:58:37 GMT
View Forum Message <> Reply to Message

Yes, exactly. I get the same message and that is specific to Mac. This works under Linux alright.

Thanks Reiumar for the code, but there is so much data and I have applied different format codes to different fields. This way I will have to convert all the data in required form again and then apply the format codes. Than again NaN problem will be there. The thing is, my code with formats applied works perfectly under Linux but not under Mac. Why is that ??

Asti

thompson@orpheus.nascom.nasa.gov (William Thompson) wrote in message news:<aeq601$s69$1@skates.gsfc.nasa.gov>...
> astib@cc.usu.edu (Asti Bhatt) writes:
>
>> No, if I do like -
>> IDL>x = !values.f_nan
>> IDL> read,format = '(3f10.3)', b
>> and if in the input i give x, it will give me an error. Not only NaN,
>> but if I say x=2 and try to give it as input to read with format
>> specified, it will give me error. And this is typical to Macintosh. I
>> tried same thing under Linux and it works fine. Actually I have a .dat
>> file from which I need to read data, there are some NaN's also, and on
>> macintosh, it refuses to read it by giving this error - %Unable to
>> apply format code blah blah to 'variable'(whatever it is).
>
> You mean that you're reading in from the keyboard, and instead of typing in a
> number, you type in the character name of an IDL variable? That certainly
> doesn't work on my machine under 5.4. Was this something added to 5.5? I get
>

> IDL> x=3
> IDL> read,format='(3f10.3)',b
> : x
> % Unable to apply format code F to input: "x".
> % Execution halted at: $MAIN$
>
> I'm very confused,
>
> Bill Thompson
>
>
>> Do you know if rsi has any patch for this ? I searched the website for
>> this, but couldn't get anything.
>
>> Thanks,
>> Asti
>
>

Subject: Re: Format codes in IDL
Posted by Nigel Wade on Thu, 20 Jun 2002 09:39:16 GMT
View Forum Message <> Reply to Message

Asti Bhatt wrote:

> Yes, exactly. I get the same message and that is specific to Mac. This
> works under Linux alright.
>
> Thanks Reiumar for the code, but there is so much data and I have
> applied different format codes to different fields. This way I will
> have to convert all the data in required form again and then apply the
> format codes. Than again NaN problem will be there. The thing is, my
> code with formats applied works perfectly under Linux but not under
> Mac. Why is that ??
>
> Asti
>

It doesn't on my Linux:

IDL Version 5.5a (linux x86). (c) 2001, Research Systems, Inc.
Installation number: 3437-9.
Licensed for use by: Radio and Space Plasma Physics Group

IDL> x=!values.f_nan

IDL> read,format='(f10.3)',b
: x
% Unable to apply format code F to input: "x".
% Execution halted at: $MAIN$

Which is what I would expect to happen. x is not valid input for a floating point conversion - it's a character not a number.

--

Nigel Wade, System Administrator, Space Plasma Physics Group,
University of Leicester, Leicester, LE1 7RH, UK
E-mail : nmw@ion.le.ac.uk
Phone : +44 (0)116 2523568, Fax : +44 (0)116 2523555

Subject: Re: Format codes in IDL
Posted by astib on Thu, 20 Jun 2002 15:30:34 GMT
View Forum Message <> Reply to Message

Hi-

If you try to assign any other value to x, it will give the same error. e.g.
IDL>x = 2.2
IDL> read,format='(f10.3)',b
: x
% Unable to apply format code F to input: "x".
% Execution halted at: $MAIN$

The thing is, it doesn't accept any "variable" as input to READ or READF. Why that ?

On my Linux, it runs fine. Also, I am generating NaN's in my code and NaN is Not a Number, but indeed a value. It is not character or string surely. I have whole data set as float and NaN is generated when there is no data. So it is right alligned only, since it is treated as a value. Now what ??

Asti

Nigel Wade <nmw@ion.le.ac.uk> wrote in message news:<aes7s4$b6h8$1@rook.le.ac.uk>...
> Asti Bhatt wrote:
>
>> Yes, exactly. I get the same message and that is specific to Mac. This
>> works under Linux alright.

>>
>> Thanks Reiumar for the code, but there is so much data and I have
>> applied different format codes to different fields. This way I will
>> have to convert all the data in required form again and then apply the
>> format codes. Than again NaN problem will be there. The thing is, my
>> code with formats applied works perfectly under Linux but not under
>> Mac. Why is that ??
>>
>> Asti
>>
>
>
> It doesn't on my Linux:
>
>
> IDL Version 5.5a (linux x86). (c) 2001, Research Systems, Inc.
> Installation number: 3437-9.
> Licensed for use by: Radio and Space Plasma Physics Group
>
> IDL> x=!values.f_nan
> IDL> read,format='(f10.3)',b
> : x
> % Unable to apply format code F to input: "x".
> % Execution halted at: $MAIN$
>
>
> Which is what I would expect to happen. x is not valid input for a floating
> point conversion - it's a character not a number.

Subject: Re: Format codes in IDL
Posted by R.Bauer on Thu, 20 Jun 2002 15:57:27 GMT
View Forum Message <> Reply to Message

Asti Bhatt wrote:
>
> Yes, exactly. I get the same message and that is specific to Mac. This
> works under Linux alright.
>
> Thanks Reiumar for the code, but there is so much data and I have
> applied different format codes to different fields. This way I will
> have to convert all the data in required form again and then apply the
> format codes.

Dear Asti,

the routine read_data_file does not require format codes.
It requires only a separator between data which could be

a comma (,) a tab (string(9b)) ,a blank (string(32b))
or different blanks.

And I have to add I was not knowing this before it reads
NaN too.

e.g. a file

1 2 3 NaN
10 29 40 60

x=read_data_file('test.dat')

help,x,/str
** Structure <824ccbc>, 3 tags, length=88, data length=88, refs=1:
   FILE   STRING   'test.dat'
   SEPARATOR   STRING   ' '
   DATA   DOUBLE   Array[4, 2]

print,x.data
       1.0000000   2.0000000   3.0000000   NaN
       10.000000   29.000000   40.000000   60.000000

I have tested on windows and linux with the same result.

At this version of the routine a NaN in first line and column will
be inerpreted as header information. I will improve the routine
for this case.
The reading of data is very very fast because it reads array orientated.
This is the fastest way to read data.

regards

Reimar

> Than again NaN problem will be there. The thing is, my
> code with formats applied works perfectly under Linux but not under
> Mac. Why is that ??
>
> Asti
>
> thompson@orpheus.nascom.nasa.gov (William Thompson) wrote in message

news:<aeq601$s69$1@skates.gsfc.nasa.gov>...
>> astib@cc.usu.edu (Asti Bhatt) writes:
>>
>>> No, if I do like -
>>> IDL>x = !values.f_nan
>>> IDL> read,format = '(3f10.3)', b
>>> and if in the input i give x, it will give me an error. Not only NaN,
>>> but if I say x=2 and try to give it as input to read with format
>>> specified, it will give me error. And this is typical to Macintosh. I
>>> tried same thing under Linux and it works fine. Actually I have a .dat
>>> file from which I need to read data, there are some NaN's also, and on
>>> macintosh, it refuses to read it by giving this error - %Unable to
>>> apply format code blah blah to 'variable'(whatever it is).
>>
>> You mean that you're reading in from the keyboard, and instead of typing in a
>> number, you type in the character name of an IDL variable? That certainly
>> doesn't work on my machine under 5.4. Was this something added to 5.5? I get
>>
>>   IDL> x=3
>>   IDL> read,format='(3f10.3)',b
>>   : x
>>   % Unable to apply format code F to input: "x".
>>   % Execution halted at: $MAIN$
>>
>> I'm very confused,
>>
>> Bill Thompson
>>
>>
>>> Do you know if rsi has any patch for this ? I searched the website for
>>> this, but couldn't get anything.
>>
>>> Thanks,
>>> Asti
>>
>>

--
Reimar Bauer

Institut fuer Stratosphaerische Chemie (ICG-I)
Forschungszentrum Juelich
email: R.Bauer@fz-juelich.de
 ---------- -------
       a IDL library at ForschungsZentrum Juelich
  http://www.fz-juelich.de/icg/icg1/idl_icglib/idl_lib_intro.h tml
 ========== =======

Subject: Re: Format codes in IDL
Posted by R.Bauer on Thu, 20 Jun 2002 16:19:11 GMT
View Forum Message <> Reply to Message

Asti Bhatt wrote:
>
> Hi-
>
> If you try to assign any other value to x, it will give the same
> error. e.g.
> IDL>x = 2.2
> IDL> read,format='(f10.3)',b
> : x
> % Unable to apply format code F to input: "x".
> % Execution halted at: $MAIN$
>
> The thing is, it doesn't accept any "variable" as input to READ or
> READF. Why that ?
>
> On my Linux, it runs fine. Also, I am generating NaN's in my code and
> NaN is Not a Number, but indeed a value. It is not character or string
> surely. I have whole data set as float and NaN is generated when there
> is no data. So it is right alligned only, since it is treated as a
> value. Now what ??
>
> Asti
>
> Nigel Wade <nmw@ion.le.ac.uk> wrote in message news:<aes7s4$b6h8$1@rook.le.ac.uk>...
>> Asti Bhatt wrote:
>>
>>> Yes, exactly. I get the same message and that is specific to Mac. This
>>> works under Linux alright.
>>>
>>> Thanks Reiumar for the code, but there is so much data and I have
>>> applied different format codes to different fields. This way I will
>>> have to convert all the data in required form again and then apply the
>>> format codes. Than again NaN problem will be there. The thing is, my
>>> code with formats applied works perfectly under Linux but not under
>>> Mac. Why is that ??
>>>
>>> Asti
>>>
>>
>>
>> It doesn't on my Linux:
>>
>>
>> IDL Version 5.5a (linux x86). (c) 2001, Research Systems, Inc.
>> Installation number: 3437-9.

>> Licensed for use by: Radio and Space Plasma Physics Group
>>
>> IDL> x=!values.f_nan
>> IDL> read,format='(f10.3)',b
>> : x
>> % Unable to apply format code F to input: "x".
>> % Execution halted at: $MAIN$
>>
>>
>> Which is what I would expect to happen. x is not valid input for a floating
>> point conversion - it's a character not a number.

Dear Asti,

I got an error on my linux if I try what you have
described.

```
read,format = '(3f10.3)', b
: x
% Unable to apply format code F to input: "x".
```

If I like to have a NaN code I have to type:

```
IDL> read,format='(f10.3)',b
: NaN

help,b
B               FLOAT     =          NaN
```

I believe this goes the normal way.

With a small piece of code definig an
error handler by a catch this could be solved.

Please can you check if something like this
is defined may be in a startup which is not
the same on all tested machines.

```
PRO test
  errvar =0
  CATCH,errvar
  IF errvar NE 0 THEN BEGIN
    catch,/CANCEL
    b=!values.f_nan
    HELP,b
    RETURN
```

```
  ENDIF
  READ,format = '(3f10.3)', b

END


IDL> test
: x
B               FLOAT     =          NaN


hope this helps a bit
regards

Reimar

--
Reimar Bauer

Institut fuer Stratosphaerische Chemie (ICG-I)
Forschungszentrum Juelich
email: R.Bauer@fz-juelich.de
 ------------------------------------------------------------ -------
       a IDL library at ForschungsZentrum Juelich
  http://www.fz-juelich.de/icg/icg1/idl_icglib/idl_lib_intro.h tml
 ============================================================ =======
```