
Subject: Re: How do I use FORMAT as I would SPRINTF?? Please Help!

Posted by [R.Bauer](#) on Thu, 19 Sep 2002 12:09:04 GMT

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Brian Huether wrote:

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> can quite simply use the sprintf command. For instance, in MATLAB, the
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> It is a meaningless example but hopefully you see what I want to do (i.e. I
> need to execute IDL commands in a loop, where each time through, the command
> input parameters are varying and are specified by indexing arrays that
> contain the parameters)
>
>
```

nice idea, did someone else like to have such a function,
I believe it's quite easy to solve.

For example:

```
FUNCTION sprintf,STRING,number
```

```
  per=STRPOS(STRING,'%')
  sign=STRMID(STRING,per,2)
  CASE sign OF
    '%d' : str_num=STRTRIM(STRING(number,format='(I2)'),2)
    ELSE:
  ENDCASE
```

```
  RETURN,STRMID(STRING,0,per)+str_num+STRMID(STRING,per+2,3276 7)
END
```

This could be a bit more enhanced. But I am not sure what this function did in matlab or if you only like to add a number as string in your output.

There are some routines from our library which may be useful

http://www.fz-juelich.de/icg/icg-i/idl_icglib/idl_source/idl_html/dbase/download/find_form.tar.gz
http://www.fz-juelich.de/icg/icg-i/idl_icglib/idl_source/idl_html/dbase/download/number_format.tar.gz
http://www.fz-juelich.de/icg/icg-i/idl_icglib/idl_source/idl_html/dbase/download/n2s.tar.gz

or as idl5.5 binary

http://www.fz-juelich.de/icg/icg-i/idl_icglib/idl_source/idl_html/dbase/download/find_form.sav
http://www.fz-juelich.de/icg/icg-i/idl_icglib/idl_source/idl_html/dbase/download/number_format.sav
http://www.fz-juelich.de/icg/icg-i/idl_icglib/idl_source/idl_html/dbase/download/n2s.sav

For example:

```
print,'I have learned wonderful things in IDL in the last '+n2s(10)+ $  
      ' days!!'
```

I have learned wonderful things in IDL in the last 10 days!!

best regards

Reimar

--

Reimar Bauer

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a IDL library at ForschungsZentrum Juelich
http://www.fz-juelich.de/icg/icg-i/idl_icglib/idl_lib_intro.html

=====

Subject: Re: How do I use FORMAT as I would SPRINTF?? Please Help!

Posted by [Randall Skelton](#) on Thu, 19 Sep 2002 12:49:07 GMT

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Hi Brian,

When you say 'MATLAB' syntax, you are more or less describing C/C++ syntax. Many IDL's semantics have roots in FORTRAN (shutter) and the format keyword is one of the many ancient artifacts.

A simple example of what you want to do might read:

```
a = 'test'
b = '10.0'
print, a, b, format=('Size (', A4, ', ', F5.2, ')')
```

Personally, I like C syntax for these sorts of things and usually do something like:

```
a = 'boo'
b = 10S
c = 100.0D

print, format='(%"(Size %s, %i, %d)")', a, b, c
```

Note the inclusion of the '%' sign just after the opening bracket.

If you search the IDL help for the heading 'Format Codes' you will get all the gory details. Towards the end, there is a section on C-style print commands which is what you are interested in.

I will preemptively answer the following 2 question even though you haven't asked (yet). Be forewarned that while MATLAB considers all integers to be type long and non-integers to be type double. IDL does not. Accordingly, when indexing a loop with more than 32000 elements be sure to explicitly cast the index to long with something like:

```
for i=0L, n-1 do begin ... endfor
```

A few standard casts are:

```
a = 0B -> byte
b = 0S -> short
c = 0L -> long
d = 0E0 -> float
```

e = 0D0 -> double

This may seem like a pain in the ass at first but for me it means I can do much larger calculations in IDL as I often only need float precision so MATLAB's default to double is wasteful.

Another pitfall is the indexing of arrays in IDL compared with MATLAB. If you are using arrays and pretending they are matrices, be forewarned that IDL uses C-style array handling which is (columns,rows) NOT (rows,columns) which is the standard MATLAB matrix and customary linear algebra notation. You will want to again read the online help under the heading, "Arrays and Matrices".

Good luck,
Randall

On Thu, 19 Sep 2002, Brian Huether wrote:

```
> Date: Thu, 19 Sep 2002 12:23:57 +0200
> From: Brian Huether <bhuether@earthlink.net>
> Newsgroups: comp.lang.idl-pvwave
> Subject: How do I use FORMAT as I would SPRINTF?? Please Help!
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```

>
>

Subject: Re: How do I use FORMAT as I would SPRINTF?? Please Help!

Posted by [wmconnolley](#) on Thu, 19 Sep 2002 12:59:02 GMT

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Brian Huether <bhuether@earthlink.net> wrote:

> I am quite perplexed by the IDL FORMAT keyword. I am used to MATLAB where I
> can quite simply use the sprintf command.

IDL is like FORTRAN, not C.

-W.

--

William M Connolley | wmc@bas.ac.uk | <http://www.nerc-bas.ac.uk/icd/wmc/>

Climate Modeller, British Antarctic Survey | Disclaimer: I speak for myself

I'm a .signature virus! copy me into your .signature file & help me spread!

Subject: Re: How do I use FORMAT as I would SPRINTF?? Please Help!

Posted by [Richard Younger](#) on Thu, 19 Sep 2002 14:41:30 GMT

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wmc@bas.ac.uk wrote:

>
> IDL is like FORTRAN, not C.
>

Well, yes. But if you're running, er, 5.4 I think, or later, the FORMAT keyword supports printf style tokens. Just prepend a % to the format string.

E.g. (nicked from the IDL help files):

PRINT, FORMAT='(% "I have %d monkeys, %s.")', 23, 'Scott'

Look at the bottom of the IDL help topic "Format Codes." The common codes are all supported.

Now, admittedly, most of us are more familiar with the traditional FORTRAN-style, so if you post here you may cause some confusion. Do whatever is the most productive, I say.

Good Luck,
Rich

--
Richard Younger
