
Subject: Re: problem string from double missing digits
Posted by [James Kuyper](#) on Thu, 11 Sep 2003 13:10:14 GMT
[View Forum Message](#) <> [Reply to Message](#)

Reimar Bauer wrote:

```
>
> Hi all,
>
> did someone know what here is going on.
>
> IDL> d = 98046763.617D
> IDL> s = string(d)
> IDL> PRINT,s
>      98046764.
> IDL> HELP,s
> S      STRING  = '      98046764.'
>
> Where are the digits ????
```

...

```
> Or does it mean I have first to determine the Format of the number and I
> have to use this information to get the right number.
```

If you don't like the default format, you do have to specify the particular alternative you wish to use. However, you don't have to be explicit:

```
IDL> PRINT,string(d,FORMAT='(F)')
98046763.6169999990000000
```

That's overkill, but at least you didn't lose anything. Coming from a C background, I personally prefer:

```
IDL> PRINT,string(d,FORMAT='(%"%f"')')
98046763.617000
```

...

```
> This goes right. But my feeling is this is terrible. Because I bet noone
> takes care on this. What's your feeling?
```

My feeling is that you'd lose your bet. Almost everyone who spends much time printing floating point numbers ends up sooner or later having to override the default formats.

Subject: Re: problem string from double missing digits
Posted by [Craig Markwardt](#) on Thu, 11 Sep 2003 13:12:19 GMT
[View Forum Message](#) <> [Reply to Message](#)

Reimar Bauer <R.Bauer@fz-juelich.de> writes:

```
>
> Where are the digits ????
>
> Or does it mean I have first to determine the Format of the number and I
> have to use this information to get the right number.
>
> IDL> s = string(d,format='(F12.3)')
> IDL> PRINT,s
> 98046763.617
>
> This goes right. But my feeling is this is terrible. Because I bet noone
> takes care on this. What's your feeling?
```

No you don't need to figure out the number of significant digits, since you can use the format code 'D0'. Formatting output properly is ultimately the programmer's job. As you did, one rapidly discovers when they get the formatting wrong.

By the way, why use the 'F' format code, when you know that you have more than 7 significant digits? Aside question to the group: are the 'F' or 'D' format codes any different?

Good luck,
Craig

Subject: Re: problem string from double missing digits
Posted by [K. Bowman](#) on Thu, 11 Sep 2003 13:24:59 GMT
[View Forum Message](#) <> [Reply to Message](#)

In article <bjpqp2\$fhrl\$1@zam602.zam.kfa-juelich.de>,
Reimar Bauer <R.Bauer@fz-juelich.de> wrote:

```
> Hi all,
>
> did someone know what here is going on.
>
> IDL> d = 98046763.617D
> IDL> s = string(d)
> IDL> PRINT,s
>    98046764.
> IDL> HELP,s
> S          STRING  = '    98046764.'
>
> Where are the digits ????
```

The default (free-form) formats are G13.6 for FLOATs and G16.8 for

DOUBLES. If you need more places to the right of the decimal point, you have to use an explicit format. (Building IDL Applications, v. 5.6, p. 234)

"G - Use F or E format depending on the magnitude of the value being processed."

```
IDL> d = 98046763.617D
IDL> print, d, FORMAT = "(G16.8)"
    98046764.
IDL> print, d, FORMAT = "(F20.8)"
    98046763.61700000
IDL> print, d, FORMAT = "(E20.10)"
    9.8046763617E+07
```

Ken

Subject: Re: problem string from double missing digits
Posted by [R.Bauer](#) on Thu, 11 Sep 2003 13:35:55 GMT
[View Forum Message](#) <> [Reply to Message](#)

James Kuyper wrote:

> Reimar Bauer wrote:

>

>> Hi all,

>>

>> did someone know what here is going on.

>>

>> IDL> d = 98046763.617D

>> IDL> s = string(d)

>> IDL> PRINT,s

>> 98046764.

>> IDL> HELP,s

>> S STRING = ' 98046764.'

>>

>> Where are the digits ????

>

> ...

>

>> Or does it mean I have first to determine the Format of the number and I

>> have to use this information to get the right number.

>

>

> If you don't like the default format, you do have to specify the

> particular alternative you wish to use. However, you don't have to be

> explicit:

```
>
> IDL> PRINT,string(d,FORMAT='(F)')
> 98046763.6169999990000000
>
> That's overkill, but at least you didn't lose anything. Coming from a C
> background, I personally prefer:
>
> IDL> PRINT,string(d,FORMAT='(%"%f"')')
> 98046763.617000
>
> ...
```

This is exactly what I wanted to have. I missed to test C Formatting codes.

```
>
>> This goes right. But my feeling is this is terrible. Because I bet noone
>> takes care on this. What's your feeling?
>
>
> My feeling is that you'd lose your bet. Almost everyone who spends much
> time printing floating point numbers ends up sooner or later having to
> override the default formats.
```

I am not sure because many times it works for float. double makes the difference.

Thanks

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/icg-i/idl_icglib/idl_lib_intro.html

=====
