
Subject: Re: IDL strplit : split a decimal number
Posted by [Ben Panter](#) on Wed, 07 Jul 2004 10:37:26 GMT
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> For example, let's take A = 147.123456789d
> I need to make an 2D integer array called B, containing the two parts
> of A seperated by the dot ... B(0) = 147 and B(1) = 123456789 ... with

<snip>

> Maybe I shouldn't use the STRSPLIT function to do this?

How about not using strsplit?

```
IDL> a=123.45434362d
```

```
IDL> print, floor(a)  
      123
```

```
IDL> print, a-floor(a)  
      0.45434362
```

```
IDL> print, (a-floor(a))*1e8  
      45434362.
```

so b[0]=long(floor(a)) and
b[1]=long((a-floor(a))*1e8)

Note - I've used longs rather than ints as the double precision will be larger than the point where ints go round again (~32k).

Ben

Blimey. And to think that a year ago I was worried about the sky falling in with doubles and floats.

--
Ben Panter, Edinburgh
My name (no spaces)@bigfoot which is a com.

Subject: Re: IDL strplit : split a decimal number
Posted by [David Fanning](#) on Wed, 07 Jul 2004 13:32:49 GMT
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Ben Panter writes:

> Blimey. And to think that a year ago I was worried about the sky falling

> in with doubles and floats.

Amazing what you can find on the Internet, isn't it! :-)

Cheers,

David

--

David Fanning, Ph.D.

Fanning Software Consulting, Inc.

Coyote's Guide to IDL Programming: <http://www.dfanning.com/>

Subject: Re: IDL strplit : split a decimal number

Posted by [mwvogel](#) on Wed, 07 Jul 2004 14:57:48 GMT

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Alternatively, you could use the format syntax

```
IDL> PRINT, '['+STRSPLIT( STRING(DOUBLE(!pi), FORMAT='(D)'), '.',  
/EXTRACT)+'']'  
[      3] [1415927410125732]
```

"bru" <bruno.galand@boost-technologies.com> schreef in bericht
news:afdbccba.0407070153.3d45d1a4@posting.google.com...

> Hi,

>

> I'm a new IDL user and I have problems using the function STRSPLIT.

> Actually, I need to split a float number to separate the FLOOR part

> from the decimal one.

> For example, let's take A = 147.123456789d

> I need to make an 2D integer array called B, containing the two parts

> of A separated by the dot ... B(0) = 147 and B(1) = 123456789 ... with

> all this accuracy.

> But writing such thing as:

> B = strsplit(a, '.', /extr)

> is not accurate enough, since it only returns:

> B(0) = 147 and B(1) = 12346

> I thought it was only the 'print' function which returns an

> approximation of B(1), but if I write B(1)-12346, it returns 0 ... and

> if I try B(1)-123456789, it returns -123444443

>

> Can any one help me with this?

> Maybe I shouldn't use the STRSPLIT function to do this?

> Maybe I don't use this function correctly ...

> Thank you for all remarks.

> Bruno

Subject: Re: IDL strplit : split a decimal number
Posted by [Paolo Grigis](#) on Wed, 07 Jul 2004 15:41:48 GMT
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mwvogel wrote:

> Alternatively, you could use the format syntax
>
> IDL> PRINT, '['+STRSPLIT(STRING(DOUBLE(!pi), FORMAT='(D)'), ' ',
> /EXTRACT)+'']'
> [3] [1415927410125732]

But, last time I checked, pi was equal to 3.14159265358979323846...
try !dpi instead.

It is slightly confusing, however, that IDL

```
IDL> print,!dpi,format='(D50.40)'  
3.1415926535897931159979634685441851615906
```

makes up some nonsense digits after reaching the machine precision
limit.

I guess I would have preferred a "simpler" output like
3.1415926535897930000000000000000000... when one can easily
spot that the double precision limit is reached at the 15th
digit.

Cheers,
Paolo

Subject: Re: IDL strplit : split a decimal number
Posted by [mwvogel](#) on Wed, 07 Jul 2004 16:08:32 GMT
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"Paolo Grigis" <pgrigis@astro.phys.ethz.ch> schreef in bericht
news:40ec199f\$1@pfaff2.ethz.ch...

>
> It is slightly confusing, however, that IDL
>
> IDL> print,!dpi,format='(D50.40)'
> 3.1415926535897931159979634685441851615906
>
> makes up some nonsense digits after reaching the machine precision

```
> limit.  
>  
> I guess I would have preferred a "simpler" output like  
> 3.1415926535897930000000000000000000... when one can easily  
> spot that the double precision limit is reached at the 15th  
> digit.  
>
```

Now, this is what happens on my machine { x86 (AMD Athlon) Win32 Windows 5.4

Sep 25 2000 32 64} :

```
IDL> print,!dpi,format='(D50.40)'
```

3.141592653589793100000000000000000000000000

Alternatively, I think RSI has made the E format specifier to limit the number to machine precision.

```
IDL> print,!dpi,format='(E)'
```

3.1415926535897931E+000