
Subject: Re: Funny math?

Posted by [Alex Schuster](#) on Thu, 20 Jul 2000 07:00:00 GMT

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Simon de Vet wrote:

```
> I've got some arrays with data. None extend past 3 decimal places.
>
> 'print, filterfunc(0,0,half1), filterfunc(0,0,half2+200)'
> produces:
> '537.100    528.300'
>
> 'print, filterfunc(0,0,half1) - filterfunc(0,0,half2+200)'
> produces:
> '8.79999'
>
> What's up with that?
```

It works better if you declare filterfunc as a DBLARR instead of a FLTARR.

```
IDL> print, 537.1
      537.100
```

This looks good, but the value is rounded. Internally, this float is stored not exactly with 3 decimal places, so if you print more, you get this output:

```
IDL> print, 537.1, format='(F12.8)'
537.09997559
```

With doubles instead of floats:

```
IDL> print, 537.1d
      537.10000
```

More decimal places:

```
IDL> print, 537.1d format='(F12.8)'
537.10000000
```

Even more decimal places:

```
IDL> print, 537.1d, format='(F20.15)'
537.1000000000000023
```

```
IDL> print, 537.1d - 528.3d
      8.8000000
```

Alex

--

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PGP Key available

Subject: Re: Funny math?

Posted by [Bruce Bowler](#) on Mon, 24 Jul 2000 07:00:00 GMT

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And of course there's the issue of not being able to represent certain decimal numbers _exactly_ in the binary number system...

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> Simon
```