
Subject: Re: fix(4.70*100) is... 469

Posted by b_efremova@yahoo.com on Thu, 19 Apr 2007 17:03:55 GMT

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Thanks Chris,

I did,

I'll try a better quesstion then.

I totally agree that 470 is something between 469.9999 something and 470.00000 something

Here comes my question then:

```
print,469.9999,format='(f9.3)'
470.000
```

```
....
```

```
print,469.9999,format='(f9.0)'
470.
```

```
print,469.9999,format='(i3)'
469.
```

So converting to integer DOES NOT keep the number the same with the give accuracy.

Instead it just truncates.

Sorry it took me so long to explain myself.

And thanks Paolo, I use round, and all works fine.

Cheers

Boryana

Christopher Thom wrote:

> Quoth b_efremova@yahoo.com:

>

>> Sorry Guys, I should have made myself clearer.

>> I'm afraid David this is not actually the question you describe in

>> your article.

>> and I do not expect better accuracy than I provide.

>>

>> There is nothing wrong here with the floating point accuracy.

>> print,4.700*100.00

>> 470.000

>>

>> It is the conversion to integer (I imagine) which makes no sence.

```
>>
>> print,fix(4.700*100.00)
>> 469
>> also (which is what I really needed)
>
> No. Read the article again...and the one on double precision...it is
> exactly what is described there. You have provided IDL with a number that
> has 8 decimal places of precision. 4.7 is really somewhere between
> 4.69999999 - 4.70000001, but cannot be precisely represented. i.e.
>
> IDL> print,4.7
>      4.70000
> IDL> print,4.7,f='(f18.16)'
> 4.6999998092651367
>
> The important point is that converting the *actual number as represented
> in the computer* to an integer, is NOT converting the number you *think*
> is represented in the computer.
>
> So...if you take the number that is actually in IDL...move the decimal
> place 2 places to the right, you get
>
> IDL> print,4.7*100,f='(f18.14)'
> 469.99996948242188
>
> Now chop off every thing after the decimal place (which is what fix()
> does)...and 469 is a perfectly reasonable answer to the question you
> asked. If you want a better answer, you need to ask a better question :-)
```

```
>
> I can't speak as to exactly how the conversion to integers happens within
> the string() command you gave, but I imagine it's probably the same.
>
> cheers
> chris
```