
Subject: Re: BUG in IDL 4.0a PowerMac
Posted by [rivers](#) on Fri, 05 Apr 1996 08:00:00 GMT
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In article <4k3mro\$72p@newsreader.wustl.edu>, Paritosh Dhawale <paritosh> writes:

> Hello,
>
> I get this dangerous bug rather randomly running
> IDL 4.0a on a PowerMac 7500. Any one with similar
> problems? IDL fails to return the correct answer
> in statement 4.
>
> IDL> help,yy
> YY FLOAT = 35.0000
> IDL> help,last_row
> LAST_ROW FLOAT = 89.0000
> IDL> print,last_row-yy
> 54.0000
> IDL> print,fix(last_row-yy)
> 53
> IDL> print,fix(last_row)-fix(yy)
> 54

You have really not provided sufficient information. If you created YY and LAST_ROW by direct assignment, i.e.
YY = 35.0
LAST_ROW = 89.0

then I agree that there is a bug. All machines which I know of represent small floating point integers exactly, and there should be no roundoff error on subtraction. However, if YY or LAST_ROW are computed, then they might be slightly different than the values they appear to have, and you are just seeing normal roundoff problems. Whenever you are trying to convert a float which might have some slight roundoff error to an integer like this you should use a function which returns the nearest integer, not the integer value after discarding fractional parts.

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Subject: Re: BUG in IDL 4.0a PowerMac
Posted by [Tim Patterson](#) on Fri, 05 Apr 1996 08:00:00 GMT

Paritosh Dhawale wrote:

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> Would appreciate any insight.
>
> Paritosh
```

It may be because FIX truncates rather than rounds to get an integer, so FIX(4.9) returns 4 and not 5.

So, as an example, if yy is actually 35.0000000001 and last_row is 89.0000000000, when you subtract them and then FIX you get FIX(53.9999999999) which is 53. If you FIX them first, you get 89 - 53 which gives 54.

So the answer may differ depending on how accurately your machine stores float variables. I think this is a problem in other languages besides IDL. Try using ROUND instead of FIX, as this rounds to the nearest integer, and it should solve the problem.

Tim

Subject: Re: BUG in IDL 4.0a PowerMac
Posted by [Andy Loughe](#) on Fri, 05 Apr 1996 08:00:00 GMT
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> IDL> print,fix(last_row)-fix(yy)  
>    54
```

Ouch!

FYI: I *don't* get this error running IDL 4.01b under Solaris.

--

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