Subject: Re: Excluding Decimal Places in the Values of a Variable
Posted by David Fanning on Thu, 14 Feb 2013 20:55:56 GMT
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Lisa08 writes:

>
> Hi everyone,
>
> I have a question that I think should be very simple to answer but I can't seem to find a solution for it.
>
> I am trying to chop off the last two decimal places for the values of a variable. The values for my variable have 5 decimal places and I want to trim it down to 3. For example, let's say my variable is:
>
> x=[[1.35679, 2.65487], [3.65789, 4.56455]]
>
> So I want to exclude the last two decimal places and have it be:
>
> x=[[1.356, 2.654], [3.657, 4.564]]
>
>
> Now, I know how to do this using a "PRINT" command as below but I don't know how to tell IDL to save the output that was printed out to a variable.
>
>
> IDL> print, x, FORMAT='(F8.3)'
> 1.357
> 2.655
> 3.658
>
> Also, Is there a way to make it "not round up"? I have found a routine that does what I want, excludes the final two decimal places and doesn't round up, but the problem with it is that it converts the values to a string to do this and then I can't seem to convert them back to floats as it gives me the following error:
>
> Type Conversion error: Unable to convert given STRING to Float
>
> The routine I found online to do this is called DECIMALS.pro and is available here:
>
> https://people.ok.ubc.ca/erosolo/idl/lib/decimals.pro

I would do it this way:

```
IDL> x=[[1.35679, 2.65487], [3.65789, 4.56455]]
IDL> x = Fix(x*1000)/1000.
```

Cheers,

David

--
David Fanning, Ph.D.
Fanning Software Consulting, Inc.
Coyote's Guide to IDL Programming: http://www.idlcoyote.com/
Sepore ma de ni thue. ("Perhaps thou speakest truth.")

Subject: Re: Excluding Decimal Places in the Values of a Variable
Posted by Lisa08 on Thu, 14 Feb 2013 21:17:08 GMT
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On Thursday, February 14, 2013 2:55:56 PM UTC-6, David Fanning wrote:
> Lisa08 writes:
>
>
>
>>
>
>> Hi everyone,
>
>>
>
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>
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>
> IDL> x = Fix(x*1000)/1000.
>
>

>
> Cheers,
>
>
>
> David
>
>
>
> --
>
> David Fanning, Ph.D.
>
> Fanning Software Consulting, Inc.
>
> Coyote's Guide to IDL Programming: http://www.idlcoyote.com/
>
> Sepore ma de ni thue. ("Perhaps thou speakest truth.")

Wow, so simple and easy. I always make things more complicated than they have to be. Thanks so much!

Lisa

Subject: Re: Excluding Decimal Places in the Values of a Variable
Posted by David Fanning on Thu, 14 Feb 2013 21:31:28 GMT
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Lisa08 writes:

> Wow, so simple and easy. I always make things more complicated than they have to be. Thanks so much!

Oh, sorry. When you said "I have a question that I think should be very simple to answer" I thought you were looking for the simple solution. I'll give you the more complicated on next time. ;-)

Cheers,

David

--
David Fanning, Ph.D.
Fanning Software Consulting, Inc.

Coyote's Guide to IDL Programming: http://www.idlcoyote.com/
Sepore ma de ni thue. ("Perhaps thou speakest truth.")

Subject: Re: Excluding Decimal Places in the Values of a Variable
Posted by cgguido on Thu, 14 Feb 2013 21:41:50 GMT
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Another simple question: why fix() and not floor()? it seems like the difference is a return type of INT vs LONG. anything else?

Gianguido

On Thursday, February 14, 2013 2:55:56 PM UTC-6, David Fanning wrote:
>
>
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>
>
>
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> Cheers,
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> David
>
>
>
> --
>
> David Fanning, Ph.D.
>
> Fanning Software Consulting, Inc.
>
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>
> Sepore ma de ni thue. ("Perhaps thou speakest truth.")

Subject: Re: Excluding Decimal Places in the Values of a Variable
Posted by David Fanning on Thu, 14 Feb 2013 21:49:06 GMT

Gianguido Cianci writes:

> Another simple question: why fix() and not floor()? it seems like the difference is a return type of INT vs LONG. anything else?

I was wondering that myself. My rule on "simple solutions" is to go with
the first one that enters my head. ;-)

Cheers,

David

--
David Fanning, Ph.D.
Fanning Software Consulting, Inc.
Coyote's Guide to IDL Programming: http://www.idlcoyote.com/
Sepore ma de ni thue. ("Perhaps thou speakest truth.")

Subject: Re: Excluding Decimal Places in the Values of a Variable
Posted by Paul Van Delst[1] on Tue, 19 Feb 2013 20:32:53 GMT

On 02/14/13 15:55, David Fanning wrote:
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> I would do it this way:
>
> IDL> x=[[1.35679, 2.65487], [3.65789, 4.56455]]
> IDL> x = Fix(x*1000)/1000.
>
> Cheers,
>
> David

How's this for a more complicated answer:

```
FUNCTION SetDP, x, n, double=double
  num  = 10L^n
  rnum = KEYWORD_SET(double) ? DOUBLE(num) : FLOAT(num)
  RETURN, FLOOR(x*num)/rnum
END

IDL> x=[[1.35679, 2.65487], [3.65789, 4.56455]]
IDL> print, x
```

```
      1.35679      2.65487
      3.65789      4.56455
IDL> print, SetDP(x,2), format='(f18.15)'
  1.350000023841858
  2.650000095367432
  3.650000095367432
  4.559999942779541
IDL> print, SetDP(x,2,/double), format='(f18.15)'
  1.350000000000000
  2.650000000000000
  3.650000000000000
  4.560000000000000
```

:o)

Sorry....

cheers,

paulv
