
Subject: Re: MOD operator

Posted by [Phillip David](#) on Tue, 17 Oct 2000 07:00:00 GMT

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Theo Brauers wrote:

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>
> I was wondering if the result of the MOD operator in IDL changed
> from previous versions (4.x, 5.0) to the current version (5.3.1).
> Now the output is:
>
> IDL> PRINT, (FINDGEN(8)-4.) MOD 3
>   -1.00000  0.000000  -2.00000  -1.00000  0.000000
>    1.00000  2.00000  0.000000
>
> When I programmed a function long ago I used the MOD operator
> expecting the output
>
> IDL> PRINT, (FINDGEN(8)-4.) MOD 3
>    2.00000  0.000000  1.00000  2.00000  0.000000
>    1.00000  2.00000  0.000000
>
```

To the best of my knowledge, this is always the way IDL (and most other languages providing a MOD operator) has worked. If you wish to take the mod of a negative number, the result will be a negative number between $-(n+1)$ and 0. A positive input yields a positive result. So when we're trying to limit a value to between 0 and 2π , we often end up with code that looks something like:

$$x = ((y \bmod (2\pi)) + 2\pi) \bmod (2\pi)$$

Hope this helps.

Phillip
