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Subject: Re: mean() function

Posted by [Foldy Lajos](#) on Sun, 15 Jan 2006 13:53:17 GMT

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HI,

sometimes there is a trade-off between speed and correctness.

Here is another example:

```
IDL> print, !version
```

```
{ x86 linux unix linux 6.2 Jun 20 2005 32 64}
```

```
IDL> print, smooth([1, 1.0e20, 1, 1, 1, 1], 3)
```

```
1.00000 3.33333e+19 3.33333e+19 0.00000 0.00000 1.00000
```

Instead of calculating the average for each 3-element window, IDL uses the first average only, then slides the window by adding/subtracting elements from the window edge. For width  $w$  it uses only 2 add/sub per window instead of  $w$  additions, which is a huge speed-up for large widths, but can give incorrect result for rare cases.

regards,

lajos

On Sun, 15 Jan 2006, Reimar Bauer wrote:

```
> mean is not useable if it results in this
```

```
>
```

```
> IDL> print,mean( make_array(500000,val=35,/float) )
```

```
> 35.0413
```

```
> IDL> print,mean( make_array(400000,val=35,/float) )
```

```
> 35.0000
```

```
>
```

```
> I prefer a slower routine if this is right.
```

```
>
```

```
> no one would accept 1.0 + 1.0 result = 1.5
```

```
>
```

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